

TEXTILE BULLETIN

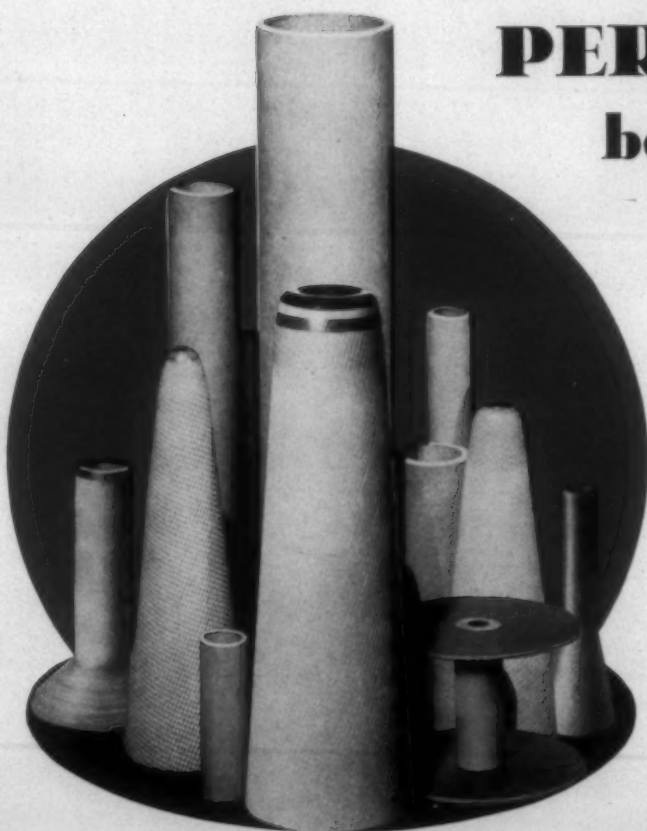
Vol. 52

APRIL 15, 1937

No. 7



PERSONALITIES behind the scenes



Knitting Arts Exhibition
Philadelphia, Pa., April 19-23 Booth 158

Every order that comes to us is a valued communication from a friend and is treated as such.

Through every step in production your order receives personalized treatment — no matter how much effort is involved.

Back of every delivery that is made lies a personalized service that comes of a sincere desire to serve — and the knowledge of customer requirements developed through nearly 40 years of association with textile manufacturers everywhere.

This is our interpretation of the *Service* that makes SONOCO the *Dependable Source of Supply*.

SONOCO PRODUCTS COMPANY
HARTSVILLE
S. C.

DEPENDABLE SOURCE OF SUPPLY

G.T.M. - Specific
GOODYEAR
 for



THE FRIEND ALL INDUSTRY WELCOMES

FOR nearly a quarter-century the men who run America's mills and mines and factories have thrown open their doors to the G. T. M.—Goodyear Technical Man. Long ago they discovered that the G. T. M.'s mission was to serve them in their endless fight for greater efficiency and economy. They came to know him as a friend who spoke their language; a practical man who could listen intel-

ligently to their difficulties and understand their specific needs in mechanical rubber goods.

They liked him because he did not pretend to know it all; because he went out into their plants to learn exactly what superintendents, foremen and mechanics wanted in performance; because he carefully analyzed every stress and strain, torque and tension, to determine the construction that would best

deliver that performance. And over two decades' experience has proved to them that the G. T. M.'s careful specifications and Goodyear's vast skill in compounding rubber to withstand any operating condition mean great savings—both in longer-wearing mechanical rubber goods and lower operating costs. That is why industry welcomes the G. T. M. as a friend—a friend whom it will pay you to know!

To bring the G. T. M. to your office just send the word to Goodyear, Akron, Ohio, or Goodyear, California—or Los Angeles, the nearest Goodyear Mechanical Rubber Goods Distributor.

THE GREATEST NAME

IN RUBBER

GOODYEAR

BELTS • MOLDED GOODS • HOSE • PACKING • MADE BY THE MAKERS OF GOODYEAR TIRES

THERE'S A
GOODYEAR
BATTERY
 NOW!

PUBLISHED EVERY THURSDAY BY CLARK PUBLISHING COMPANY, 118 WEST FOURTH STREET, CHARLOTTE, N. C. SUBSCRIPTION \$2.00 PER YEAR IN ADVANCE. ENTERED AS SECOND CLASS MAIL MATTER MARCH 2, 1911, AT POSTOFFICE, CHARLOTTE, N. C., UNDER ACT OF CONGRESS, MARCH 2, 1897.

Fire Protection In Southern Textile Plants*

By Asa Hosmer, Southern Field Manager
Factory Insurance Association

TEXTILE covers, of course, various knitting mills, woolen mills, and cotton mills. The majority of this paper will deal with cotton mills. As an employee of an insurance organization, I must perforce approach my subject from the insurance company's view point, but, after twenty years of contact with cotton mills, I feel that my ideas are tempered with the practical as against the purely theoretical, or ideally perfect conditions.

Fire insurance on manufacturing plants today carries with it side line or supplemental coverage. The most important of these are sprinkler leakage and windstorm insurance. I want to mention briefly where the engineer is interested in these.

Sprinkler leakage is the premature operation of sprinklers caused by accident or by heat other than from fire, also, the precipitation of water from accidentally broken sprinkler pipes and the precipitation of water from the collapsing of sprinkler tanks. Those points which the engineer should keep in mind are obvious. I will stress only two of them: (1) the growing use of unit heaters; (2) the central station heating and air conditioning plant. In the first case, sprinkler heads over and usually for twenty feet in front of unit heaters should be high degree heads to prevent premature operation. In the second case, sprinkler heads near and over auxiliary heating unit placed in the air duct should, also, be high degree heads. There is an additional feature of fire protection often neglected or overlooked with the central unit installation. That is the need for sprinklers under the large air ducts.

We all know what a tornado is and many of us have seen what one can do to buildings even of substantial construction, such as the modern cotton mill. I believe the FIA (which I represent) was the pioneer in suggesting anchorage for roofs, with the idea of minimizing the effect of tornados. There are two types of windstorms which cause damage to mill buildings. One is the straight velocity wind, which should properly be called a hurricane; the other is the twister or tornado which causes its initial damage by the expansion of air

inside a building when the low pressure area passes over and near it.

Most buildings are designed to withstand a certain direct wind pressure. Few are designed to withstand the above mentioned internal pressure and few are designed to withstand the velocity or hard wind if ruptured by the internal pressure. I think it is safe to say that it is impractical to build a building that is tornado proof, other than possibly a reinforced concrete structure, and even then there is always the probability of damage to windows and roof covering.

It is practical to install anchors or other devices that will minimize the effect of a tornado. The mill engineer is familiar with what we call wall and column anchors. Recent losses have shown their value and also that they can probably be improved upon. The growing use of steel and tendency to use an all steel structure is, I feel sure, a step that will reduce tornado losses. Parapet walls are helpful, particularly against velocity winds. The over hanging cornice seems to increase the probability of wind lifting the roof covering and, of course, the use of ballasted roof increases resistance to this wind damage. I believe that the run of mine windstorm loss on mill buildings is invariably the loss of the roof covering without any material structural damage and usually with resulting water damage to the contents of the building caused by the rain water going through the uncovered roof.

I should be remiss if I did not mention a type of roof that I have seen once and heard of several times. That is a precast cinder concrete roof that is not fastened down at all. The effect of internal pressure by a tornado would, in my opinion, "float" this roof off and the velocity wind following would completely unroof the building.

I have touched very briefly on these two features which, while they have nothing to do with fire protection, are of vital importance to the insurance companies that carry the fire insurance on cotton mills.

I believe we all understand the general principles of fire protection as applied to textile plants. That is, substantial or heavy construction, segregation of hazards by fire walls and complete sprinkler systems backed by adequate water supplies. With the trend toward larger

*Address at A. S. M. E. meeting in Greenville, S. C., during the Southern Textile Exposition.

areas and fewer fire cut-offs, we should certainly have larger water supplies, both primary and secondary. That is, larger tanks and more than one pump taking suction from an adequate reservoir.

I am satisfied that I have seen a million gallons of water used on one Warehouse fire, involving approximately 3,000 bales of cotton, of which only 600 showed signs of fire.

What I have just said is a brief outline of fire protection for textile plants and the side lines of fire insurance. Industry today is faced with a problem in which fire insurance companies are vitally interested and in which fire protection and the textile engineer are, of necessity, on opposite sides.

I am definitely satisfied that the salvation of each individual textile business lies in the modernization of the plant and this involves both machinery and processes. Improvements in textile machinery have been very rapid in recent years after a stagnation of many years. Improvement in process arrangements are just beginning to follow. It is this process arrangement or rearrangement that is giving the insurance companies concern.

Let us go back to what were, if you please, pioneer days of cotton mills. Experience taught us that there were certain inherent hazards in processing cotton that had to be isolated so that a fire in one of these processes could not spread to and destroy the whole plant. The opening and picking and in colored mills the raw stock dyeing and drying were the most hazardous of these. Accordingly, they were placed in separate cut off areas. The cotton bale storage was, also a recognized hazard, and the area of a single warehouse or the number of bales subject to one fire was a real insurance or rating feature. These factors have all been recognized by mill engineers and by the mill owners, and we are all familiar with the conventional standards of cotton mill construction and the isolation of these hazards. It seems unfortunate that present day practices are getting away from these fundamentals. I do not feel that the engineer is entirely to blame. There have been changes in machinery, in the arrangement of machinery and processes, and mills have been forced to reduce labor cost wherever possible. Materials handling in textile plants is still in a primitive stage, but such changes as have been made seem to vitally affect the fire risks of the plants.

The insurance company first looks at a mill as a whole or from the viewpoint of general construction and water supplies. Then it considers the percentage subject to one fire, and the segregation of major hazards by walls is, of course, a vital factor. In new plants being built today, these hazards can be taken care of in a very satisfactory manner. It is the remodeling and revamping and rearranging of old plants that gives us the most concern. It is obvious that changes in machinery and conventions of handling processes have brought about a condition whereby existing areas can not well be fitted to the new order.

The insurance company does, however, look at and analyze the mill from the possibility of a catastrophe loss whereas the first viewpoint of the owner is the smoothness of operation and the reducing of production costs to a minimum. It is also obvious that an utter dis-

regard of sound fire protection principles will very likely result in a disastrous fire which means an entire loss of production and that is a condition which no mill owner desires.

I think it is, therefore, evident that there must be some happy medium between the ideal production arrangement from a production point only and the ideal arrangement from a fire protection point only, which will result in a satisfactory arrangement to the mill owner and a safe arrangement to the insurance companies. Bearing this in mind we can only ask that where ever it is at all possible, existing fire divisions be maintained. It can not logically be done in all cases but in some instances some divisions can undoubtedly be maintained without placing an undue burden on the manufacturing processes.

The Picker Room, particularly in a multi-story mill, brings up probably the hardest problem. In the old Picker Room a good deal of space was allotted to opened cotton and with the three picker processes and the necessary accumulation of laps between processes, a relatively large Picker Room was necessary. With the modern Picker Room in which are installed single process pickers, with the cotton fed mechanically to them there is, of course, much less space required. The result is that when a Picker Room is modernized there is a lot of spare floor space left which is obviously worth money and which a mill owner feels should be utilized. The trend of modernization seems to be the installation of cards in this spare floor space and where the Picker Building can be retained intact and another occupancy such as cards is installed in the Picker Room, a fire resistive partition should, of course, be built between the occupancies.

Where, in the final analysis, it is imperative to destroy the Picker House cut-off and remove the old fire walls or possibly relocate the pickers in some other part of the plant a different problem is presented. If the pickers are left in their original location and the fire divisions destroyed, the pickers themselves can be isolated in the one floor by fireproofing the ceiling and erecting a fire resisting partition around them. This, however, leaves the original Dust Room, one or two stories below with only a plank ceiling between it and the wide open mill. The dust pipes connecting the pickers and the Dust Room are ordinarily of light metal with riveted and soldered joints. It is not uncommon for these to come apart in case of fire and this could permit a communication of fire to the large areas. I am convinced that very careful consideration should be given to replacing these pipes with lines of heavier material such as spiral riveted pipe with fittings of the same material.

Careful thought should be given to the fireproofing of the Dust Room ceiling and where at all possible this ceiling should be replaced with reinforced concrete. The expense involved in this change would very possibly warrant abandonment of the Dust Room and the substitution of modern air filters.

The use of these filters does not eliminate a considerable hazard from the use of dust pipes which would then pass through the Picker Room floor and run on the ceiling of the room below and back up to the filters. These

dust pipes, I am convinced, should be of heavy material such as spiral riveted steel pipe and fittings.

It is probably going to be impractical in almost all cases to get a fireproof floor under the picker but wherever relocated it should be practical to get a waterproof floor under them with scuppers in one or more outside walls. Similar scuppers should preferably be installed in the old picker rooms when they are retained so that water can be swept out of the room, thus minimizing the water damage in the floors below. Where there is no cut-off in the areas under the pickers, extreme care should be taken in installing the lint discharge connections between the pickers and the lint pipes so that there will be no leakage around them through the floor. This could probably be best accomplished where the spiral riveted pipe is used, by using a special casting or a heavy sheet iron fitting built up for a square to round connection with a wide flange on the square end which is fastened to the floor under the picker.

It is, of course, assumed that all picker machinery will be properly sprinkled in the customary manner. The sprinklers in the Picker Room area itself, particularly in a multi-story mill, should be isolated and controlled by an individual valve located just outside the Picker Room, so that they may be quickly shut off as soon as the flash fire is extinguished and the quantity of water used thereby reduced to a minimum.

Fire resistive partitions used around pickers need to be carefully constructed. I have given some thought to the value of the solid partition, three inches thick, which is now being used, as against a hollow one with about an inch and a half cement plaster on each side and while the latter is somewhat better from a heat transmission viewpoint, the three inch solid partition is probably better from a mechanical injury joint of view. The door openings should, of course, be framed with steel members, and double fire doors should be hung on all openings.

In the one story mill, or the mill where the Picker Room is on the first floor, it often works out that the opener machinery can be fitted into the Picker Room. It does not seem that this has changed the hazard a great deal unless this unduly congests the machinery and there is not enough room for the opened bales of cotton. I am speaking of the combination Opener and Picker Room where cotton is fed to the openers and is conveyed mechanically to the pickers, which in the modern set-up are almost always single process machines, with the result that there is no opened cotton, except in the machinery, between the opened bales and the finished laps. The proper installation of sprinklers in this machinery should and does control any fires in the machines.

Let me next discuss the warehouses and the storage of cotton. The standard warehouses for years has been considered a one-story building, constructed in multiples of 50'x100' sections. The divisional walls were brick fire walls, the end walls were light frame and the roofs, of course, were of standard plank on timber construction. The buildings were fully sprinkled and cotton was stored one on end. This was an ideal condition. Approximately 500 bales could be stored in each section,

and sprinklers could and did control any fires with a minimum of damage.

Multi-story warehouses were, of course, necessary in some cases. By and large, the same idea was followed. That is, each floor was high enough for only one on end storage and the fire walls and frame ends were continued on up. No openings were permitted in the fire walls. Elevators were properly cut off and preferably installed openings only on an outside platform.

The reason for the frame end was not, as might easily be supposed, to cheapen the construction. Strange to say, the frame end of the warehouse plays a very important part in the handling of a warehouse fire. When cotton bale get on fire, the entire contents of the room, generally have to be wet down which does not extinguish the fire. The bales then have to be taken out onto the ground and the fire in them extinguished bale by bale, by hand work. The time required to get the bales out is a large factor in the salvage work, and the general practice is to rip out the frame end so that the cotton can be quickly removed from the building. The increased salvage obtained more than pays for the loss of lumber in the frame end.

It is unfortunate from the insurance company's side of the picture that the tendency today seems to be for bigger areas in warehouses and high buildings in which cotton can be piled, rather than the multi-story building with one on end storage. The reason for this is probably an economical one and the result of wide fluctuations in market value of cotton and the desire of mills, that are able, to purchase large quantities of cotton on advantageous markets and hold the physical cotton on their own property. This type of storage, of course, is only adaptable to privately owned cotton where it is to be stored for some length of time.

With the modern trend for steel frame construction, the cotton warehouse presents a very different problem from the open cotton mill. We all know that a steel structure fails at a comparatively low temperature, where a heavy wooden structure will withstand a considerable fire. The ideal steel frame building with interior steel columns should have the steel work fireproofed. That is, incased in concrete. However, reliance on the cooling effects of sprinklers in the open mill has been so universal that very little of this fireproofing has been done, and so far, confidence in the springlers has, apparently not been misplaced. The same construction in a warehouse presents a somewhat different problem, particularly where cotton is piled. We have had no actual experience in a building of this construction, but it is our firm opinion that the water from sprinklers can not filter through the piled cotton sufficiently to cool the steel columns, and there is the very great possibility that columns could fail in case of fire by reason of the heat generated in the cotton bales. It is felt that where steel columns are used with multi-story and/or high ceiling warehouses, they should be fireproofed with concrete, at least to the extent of filling the space between the flanges with concrete.

There is one other feature of the modern mill, particularly the white goods mill, which has personally caused me considerable uneasiness. That is, the use of

(Continued on Page 24)



Problem PAGE

Devoted to Practical Questions and Answers Submitted by Our Readers

How to Find Twist Gear

Editor:

I am now running a 49 tooth twist gear on slubbers, making .50 hk. roving with $1\frac{1}{8}$ " staple cotton. I want to change to $1\frac{3}{4}$ " staple and make .54 hk. roving, and would like to know if anyone can suggest a method for finding the proper twist gear to use?

"Staple"

Another Answer for "J. A. Runum"

(What Shaft Speed?)

Editor:

The difference in the speed of shaft B when using a single or double belt, can be put down as *none*.

The thickness of belts is figured for horsepower, not speed.

It is true that a thick belt will cover a few thousandths of an inch less of the surface of the pulley than a thin belt will, but the difference in the weight of the thick belt will more than make up for that little matter.

"W. T. Q."

Where to Measure Whorl of Spindle

Editor:

I would like to know exactly where to take the diameter of the whorl of the spindle in order to calculate exactly the speed of the spindle. Should it be taken in the narrowest point, or further out on the whorl?

"Whorl"

Another Reply to Slack Bands

Editor:

Bands made of roving are very good. The writer has no fault to find with them as bands, but I see no reason for the claims that they will not run slack.

Personally, I prefer a band made of yarn, they will wear as long, and remain as tight, if they are made right and tied properly.

Also for the reason that in making yarn bands we can use all our bobbins and spools of damaged yarn that cannot be sold or otherwise disposed of profitably, such as an occasional bobbin of hard twist, soft twist, dirty yarn, and oily yarn; whereas the good clean roving that is used to make roving bands can be spun into yarn and sold at a profit.

You might try changing bands boys, sometimes that will help.

"Tight Band"

Reply to "X"

(What is Twist?)

Editor:

In answer to "X" question on "twist" and "mock-twist" yarns.

In textile manufacturing in this country "twists" are understood to mean two or more single threads of different colors twisted together to form a ply yarn. Thus a blue and a green thread twisted together make a blue-and-green twist. A blue and a yellow and a red thread twisted together make a blue-yellow-and-red twist.

Any number of single threads and colors desired may be used to make twist yarn.

Mock-twist yarn is a single thread spun from two different colored rovings. If one white and one red roving are fed in together at the back of the spinning rolls and spun together as one it will make a white-and-red mock-twist yarn.

"C. G."

Answer to "J. E. L."

(Why Variation in Twisted Yarn Weights)

Editor:

The larger yarn is gripped firmly by the rolls and is delivered a little faster than the finer yarn, because of the heavier yarn holding up slightly the top roll, thereby releasing it from the pressure of that roll, while the friction of the bobbin or spool on the pin in the creel retards its delivery slightly causing it to be pulled through not by the rolls but by the traveler, consequently the finer yarn is delivered in practically a straight line, while the heavier yarn is wrapped around the lighter one. If you will take a yard or more of this yarn and carefully untwist it you will find that the coarser one is somewhat longer than the fine one.

You are to be commended for noting the difference in the actual weight of the folded yarn and the two single yarns weighted separately.

"Fancy"

Is It Practical to Use Comb Guide?

Editor:

I would like to know if it is practical to use a comb guide on a spooler, running No. 56s warp yarn, carded stock, $1\frac{3}{16}$ " strict middling cotton. I know we can use the comb guide on combed stock, but since our carded stock contains neps I don't know if it is practical to use it for the carded stock.

"Second Hand"

Developments in Staple Fiber Stress Mixture Cloth

(By Andrew K. Henry in *Daily News Record*)

Boston, Mass.—The outstanding developments in staple fiber during the last year have been the considerable increase in its use on the cotton, woolen and worsted systems, and the introduction of several lines of 60/40 worsted cloths for men's wear. These 60/40 cloths have been well designed, well woven, and been given an excellent finish. And with the marked rise in the price of wool since October, they should find a large and ready market.

Some worsted mills have put out fine fabrics blending 60 per cent of 62s wool with $2\frac{3}{4}$ and 3 denier Viscose staple fiber, but the majority of these blends have been made from a 58s to 50s worsted $5\frac{1}{2}$ denier Viscose staple fiber.

One promising feature has been that the lines are offered as definite blends with 60/40 plainly marked on each ticker, and this is a definite step in the right direction, as rayon is now in a position to stand on its own merits wherever found, and need no longer be smothered or apologized for. These blended cloths will be especially attractive for spring and fall wear, as they give a man a handsome worsted suit with a proportion of cool fibers.

We heartily agree with "truth in fabric" and no cloth should be marked "all wool" that is not all-wool, but in men's wear, and especially in women's wear, mixtures of different fibers are useful and definitely desirable from the standpoint of style. Some years ago the foremost European designers looked over the field of possible fibers and they have used wool, cotton, silk, rayon, ramie, tinsel and linen in any combination or proportion that gave them a desired effect.

Regarding prices—the past year saw open bleached Viscose waste drop from 22 to 14 cents, and later rise to around 17 cents at the end of the year. Large quantities of staple fiber were imported from Japan for use on the worsted systems, along with small imports from Europe, and the domestic staple fiber manufacturers devoted practically all their machinery to $1\frac{1}{2}$ denier cut to $1\frac{1}{2}$ inches for cotton spinning, and could not keep up with the demand. Therefore, the rayon topmakers used large quantities of foreign staple fiber and several million pounds were brought in for cotton spinning as well. With new machinery getting into production this spring, the domestic manufacturers are in a better position to supply both types of spinners.

With staple fiber held at a steady price, a definite ceiling exists for the prices of open waste and threads, and we shall probably never again see the wide fluctuations of former years where waste reached 55 cents in 1925, dropped to 17 cents in 1927, rose to 45 cents in 1929, and was sold at under 10 cents in 1931. Steady prices are a great help to wool and worsted spinners, as they have difficulty enough in following the abrupt changes of wool and appreciate a raw material that stays about the same over a period of several months.

The prospects for the use of rayon waste and staple fiber on the woolen, worsted and cotton systems this year are very promising, and several mills that were

(Continued on Page 10)

IT'S THE EDGE

—That Prevents Fly Waste and Split Ends

The swirling of the end in passing through the traveler produces smooth even yarn.

This in turn reduces the fly waste to a minimum in the Spinning and Twisting of Cotton, Wool, Worsted, and Asbestos, also reduces the number of split ends in the throwing of Real and Artificial Silks.

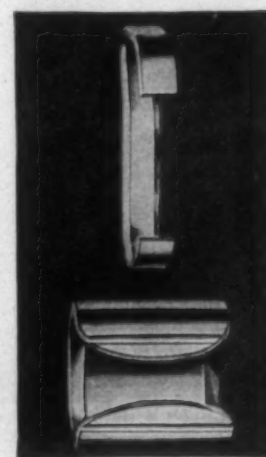
The Bowen Patented Bevel Edge

The Bowen Patented Vertical Offset

and

The Universal Standard Ring Travelers

BEVEL



EDGE

..... Are the result of combined research and experience in manufacturing Ring Travelers and backed by most modern mechanical equipment. It is to your advantage to try these travelers. Made in all sizes and weights to meet every ring traveler requirement.

Write for Samples

U. S. Ring Traveler Co.

Providence, R. I.

Greenville, S. C.

AMOS M. BOWEN, President and Treasurer

Sales Representatives

Wm. P. Vaughan

P. O. Box 792

Greenville, S. C.

T. L. Maynard

P. O. Box 456

Belmont, N. C.

Oliver B. Land

P. O. Box 158

Athens, Ga.

A Traveler for Every Fibre

Glass Fibers*

Games Slayer**

WE ARE speaking of nothing essentially new when we talk about glass fibers. As glass is a fluid at high temperatures, fibers are readily drawn from any molten glass. Many of the oldest known historical relics are made from glass. They have survived because of chemical stability, resistance to acid attack, wetting and drying, decay and rot. It is the permanence of glass which makes glass fibers so interesting from many viewpoints. As a matter of fact, glass fibers have been put to special uses for several centuries, and since 1904 they have taken their place in the industrial world.

However, it has been but recently that glass fiber has been available in sufficient quantity, of uniform quality, and of low enough price to be of interest commercially for any purpose. At the present time it is being used principally as an insulating material; here again the inherent stability of glass plays a great part in its value.

During the World War a method for the commercial production of glass fiber for insulation purposes was developed in Germany, where the supply of asbestos had been cut off by blockades. Of course, the first way in which glass fibers were made was to heat a rod in a gas flame and pull the molten tip to arm's length. The slow, tedious process made it impractical commercially. Then a method was developed where the initial drawing was started by hand and the thread was thrown around a bicycle wheel which the operator pedalled as fast as possible. A package of fibers was built up to the size of a tire and cut off. The capacity of this process was increased by heating several rods simultaneously and winding the filaments on a number of wheels.

Fiberglas and Tensile Strength

This was the state of the development of the art when our company's process was developed in 1931. During the last year and a half, by arrangement with the Corning Glass Works, the research on glass fiber products is being carried on jointly. Owens-Illinois Fiberglas is made by American mass production methods, thus permitting economical production. The process consists in allowing the molten glass to pass through a number of very fine holes, the resultant streams being drawn into fibers by steam. In the production of insulating materials these filaments, falling on a conveyor belt, build up a mat of Fiberglas about seven inches thick. This is compressed to four inches before being cut and trimmed to proper size. While glass weighs, roughly, 150 lb. per cu. ft., the Fiberglas mat weighs only 1.5 lb. per cu. ft. Thus, in fabricating the glass, 99 per cent air has been entrapped.

It has been known for years that glass, if drawn sufficiently fine, becomes flexible, and when the fiber diameters are sufficiently small, can even be tied into knots,

particularly where the fibers are in the form of yarn. This is true because the radius of curvature is not so small in the yarn as when a single fiber is bent. The relationship between fiber diameter and size of the loop which can be made in the fiber is approximately quadratic; that is, by halving the diameter, the loop size is reduced to approximately one-fourth its original size. In addition to flexibility, tensile strength improves as fiber diameter is reduced, the relationship again being apparently quadratic. The typical strength of glass in rods is about 20,000 lb. per sq. in., while strengths in commercially produced fibers have gone as high as 2,000,000 lb. per sq. in.

Glass fibers used in heat insulation materials are quite long, the average length being well over 30 in. It is difficult to determine exactly the length of one fiber because of the intertwining which occurs as the fibers felt up on the conveyor. Depending on the product being manufactured, the fibers vary in diameter from 0.02 in. to 0.0002 in., while some fibers for special purposes have been produced as fine as 0.00005 in. The individual strength of these fibers is astounding, averaging 250,000 lb. per sq. in. for the grades which have diameters of about 0.00035 in. Theoretically, the maximum upper limit of glass strength, including both the lattice and vanderwalls energies, is 12,000,000 to 14,000,000 lb. per sq. in. In several experimental tests, with fibers of 2 micron diameter (0.00005 in.), strengths of 3,500,000 lb. have been reached, or 25 per cent of the maximum theoretical strength.

It is unnecessary to go into the classical theoretical work that has been done on tensile strength of materials, but it is well known that the low strength of metals, and the brittleness of glass are attributed, respectively, to slip-plane planes and incipient cracks, or discontinuities, in the material. In glass these discontinuities are obviously most dangerous at the surface, because any tensile load is then concentrated on a very small area, and extremely high stresses arise at the inner end of the discontinuity. Since tensile strength tests taken on fibers which have just been formed show appreciably higher strengths than those on fibers which have stood for some time, it has been suggested that a rearrangement of molecules takes place with the resultant formation of discontinuities which contribute to the loss in strength. Another theory postulates that the gas above the melt is entrapped during the drawing of fibers and, as cooling takes place, is collected in "pockets" and aids in the formation of discontinuities.

Thermal Insulation

But, just why is the tensile strength so important and how does it enter into the performance of Fiberglas insulation? In two ways. Wherever glass fiber is to be used as an insulating material it is supplied to the job

*Presented at a meeting sponsored by the A. S. T. M. Pittsburgh District Committee, Pittsburgh, Pa., Feb. 25, 1937.

**Director of Research and Development, Industrial and Structural Products Div., Owens-Illinois Glass Co., Newark, Ohio.

in thicknesses greater than that of the space which it is to fill. The high tensile strength of the fibers tends to make the pack fluff out and guarantees that the insulated space will be filled with material. This reduces convection to a minimum and still allows for the slight amount of air travel required to remove any moisture which may condense in the insulation. Moisture is one of the most deadly enemies of insulation. This has been illustrated by installations of vegetable, mineral, and animal insulations which, too tightly packed, absorbed moisture and became thoroughly dampened, and then could not give up this moisture because all convection was stopped through the material. This led to rot, decay, and destruction of the fibers of the insulation. Also, if any vibration is encountered, the Fiberglas tends to fluff out further rather than to settle.

It is reasonable to inquire just what efficiencies can be expected from Fiberglas insulation. Normally, thermal insulation efficiency is expressed in terms of conductivity—the B. t. u. loss through one inch of material, per deg. Fahr. of temperature difference, per hour. Under normal operating conditions, where the mean temperature is approximately 70 F., Fiberglas insulation has a conductivity value of 0.25 B. t. u. per hour. To obtain this conductivity at higher temperatures, a slightly higher density is required, while, in refrigeration work, the conductivity is, naturally, lower. Fiberglas is used in the range from 1.5 to 4.5 lb. per cu. ft., the density having been determined for optimum operation under any given temperature range.

Fiberglas is a very light insulation material. A floor

area of 800 sq. ft. can be covered four inches thick with 400 lb. of Fiberglas insulation. Thus the material only adds $\frac{1}{2}$ lb. per sq. ft. to the floor construction. This slight increase in weight is negligible.

Fiberglas has another advantage. It is a definite fire-retardant. It will withstand temperatures of 1000 F. without fusing and tends to smother any flames with which it comes in contact. It is also definitely a dielectric, that is, if a wire breaks and an arc forms, the Fiberglas will insulate combustible material from the arc.

Textiles

The insulation value of glass fiber is by no means the only application of Fiberglas, although it is the most widely known. At the present time Owens-Illinois is, and has been for several years, experimentally producing textiles from this same glass fiber. Thread has been made from filaments which are tremendously long—made specifically for textile usage, and for that reason processed in slightly different manner than the insulating fiber. We call these textile materials "continuous filament material," as fibers have been drawn without a break to the length of 5040 mi. Sixty of these continuous filaments are placed together to form a strand, corresponding in the silk or rayon system to 75 denier.

Here again, tensile strength and flexibility play a big part. The tensile strength of these individual filaments is 250,000 lb. per sq. in., while the tensile strength of the 60 filament strand, on the basis of the diameter of the strand, is 17,000 lb. per sq. in. However, when the tensile strength is calculated, not on the diameter of

(Continued on Page 31)

**Looking for
improvement
in your
COTTON
KIERBOILING?**

**JOHN CAMPBELL
& CO.**

75 Hudson St. New York City

Branches and Warehouses:

Concord, N. C. Burlington, N. C.
Chicago Providence Boston
Philadelphia

Try a test run with KIERASOL J. C.

KIERASOL J. C. is a soluble kier boil assistant or boiling out oil that gives excellent results in cotton kierboiling. It is easy to use—dependable in effect. Here are its working features:

1. Washes out all oils, starches, waxes and dirt.
2. Leaves Kier free of foreign matter and stains.
3. Produces absorbent and "well-bottomed" goods.
4. Use in closed or open type kiers on cotton yarn, knit or piece goods.
5. Use in conjunction with Caustic Soda or Soda Ash in pressure kier.

Write for sample of KIERASOL J. C., giving details of proposed usage.

Developments in Staple Fiber

(Continued from Page 7)

skeptical when offered rayon tops and staple fiber back in 1928, now agree that they can be used to great advantage, and even predict that this surface has only been scratched and that this end of the rayon industry is due for important expansion in the next few years.

On the worsted system, there is a wide use today for tops made from open waste and tops made from 5½ denier Viscose filaments cut to six inches and also four inches, and we believe that there will be an increasing demand for tops made from 3 denier filaments, both bright and dull, as this number is very much used in England and on the Continent. The woolen mills are using large quantities of rayon garnetts and they are becoming very interested in 5½ denier filaments cut to two inches, in both bright and dull.

The cotton mills have made great strides in the use of staple fiber and have put on the market many lines which are outstanding in value and style, including several linen-type fabrics which have met with instant success, and with the unlimited possibilities offered in blending a percentage of wool, the cotton spun yarns should achieve the same success in fabrics for fall and winter.

Study Drying of Textiles

Drying of textiles is to be studied at the National Bureau of Standards under the auspices of U. S. Institute for Textile Research, and the supervision of the following administration committee: G. E. Hopkins, technical director, Bigelow-Sanford Carpet Co., chairman; Dr. A. C. Walker, Bell Telephone Laboratories, and Dr. F. Bonnet, The Viscose Co. The Administration Committee and representatives of the Bureau of Standards for this study will select a director for the research, and prior to starting of actual work a meeting of co-operators will be held in Washington, D. C., at which they and those responsible for the study, including the Research Council of U. S. Institute, will confer regarding the research program and its possible revision or expansion, and the selection of an advisory committee for the study. Co-operators will also have an opportunity to inspect the laboratory and other facilities at the Bureau of Standards for this work, and to learn of other drying studies that have been conducted there and of their results.

The drying research was made possible by 50 co-operators, the income of whose contributing memberships (\$100 a year each) are credited to an initial fund of \$5,000. These co-operators and others who may yet become contributing members for this study will receive

confidential progress reports of results, and will have sole access to these results until a year after completion of the study. In view of the many features of this research for which there is no scientifically reliable information, and of the vital importance of safe and efficient drying in textile processing it is expected that the number of contributing members for this study will be largely increased now that the main details of its organization are known.

The purpose of this study are briefly described in the program as follows: "To ascertain some of the fundamental facts underlying the design of drying equipment for textiles. To develop information about the way textiles can be dried with maximum efficiency and minimum injury to the material. To assist in applying this information in individual plants." The problems to be studied are (a) regain, (b) effect of regain, (c) effect of machine variables, (d) effect of impurities.

As soon as results are ready for practical application, co-operators may have the advantage of the advice of the director on a consulting basis, the latter visiting their mills and conferring with their technicians when deemed requisite. The latter is a service made available for the first time in connection with U. S. Institute researches. This also is the first co-operative research of U. S. Institute that has been wholly financed by members.

Like other co-operatively financed studies of U. S. Institute the drying research was approached by an open conference of all interested parties, held in May of last year in New York City. By unanimous vote U. S. Institute was requested to proceed with the preliminary organization and financing of the study. A committee consisting of W. E. Emley, Chm., Alban Eavenson and Dr. H. DeW. Smith has had charge of initial plans, Secretary C. H. Clark of the financing. Another open conference on the subject was held in conjunction with U. S. Institute's annual meeting last November. Both of the conferences were the source of a large amount of valuable literature on the subject all of which was published in Textile Research and in the Trade Press of this and foreign countries. The wide publicity thus given to the need of such a study has exerted much the same valuable influence at that which has followed U. S. Institute's study of sizing and sizing materials: It has already caused many mills to survey and attempt to improve their drying, and has been followed by important improvements in drying machinery and control instruments.

Attempted Robbery of Mill Payroll

Police, tipped several days previously that an attempt would be made to hold up the payroll messenger of the Pickett Cotton Mill, High Point, N. C., secreted themselves about a bank entrance and arrested three men as the messenger left the bank unmolested.

Chief W. G. Friddle said he docketed the men as Lonnie Macemore, 23, of High Point, G. W. Patillo, 28, of Atlanta, and W. G. Maddox, 24, of Atlanta, and said Georgia authorities had advised him Patillo and Maddox were escaped convicts from that state.

Friddle said all of the men were armed when apprehended. The chief said officers acted on a tip received several days ago by officials of the mill.



Dixon's Patent Reversible and Locking in Back Saddle with New Oiling Device three Saddles in one, also Dixon's Patent Round Head Stirrup.

Send for samples
DIXON LUBRICATING SADDLE CO.
Bristol, R. I.

WHEN YOUR MACHINE WAS JUST A PIECE OF PAPER

Its Lubrication was as carefully planned as its size, weight and balance... and the chances are 4 to 1 that Socony-Vacuum Lubricants were approved for its use!



WHEN THE MACHINES in your plant are planned... chances are that Socony-Vacuum engineers "sit-in." And very likely Gargoyle Lubricants are recommended for their efficient lubrication.

Here are good reasons why 80% of America's machinery builders approve the oils and greases trade-marked with the Red Gargoyle: they offer

power savings, decreased maintenance, improved production, lower annual oil bills.

110 different industries—standardize on Gargoyle Lubricants. Their reasons: better machine efficiency and savings in plant operating costs.

Encourage your staff to cooperate with Socony-Vacuum engineers. You will find it profitable.

SOCONY-VACUUM
INDUSTRIAL LUBRICATION



SAVES
MONEY
FOR
INDUSTRY

THIS MARKETING POLICY MEANS "CORRECT LUBRICATION" FOR EVERY TYPE OF PLANT

INDUSTRY ALMOST ALWAYS FINDS that the controlled use of high-grade Gargoyle Lubricants pays for itself many times over and that they actually cost less to use than ordinary lubricants.

But, for such equipment as does not justify the highest-grade lubricants, Socony-Vacuum Engineers will always recommend a lower-priced lubricant when consistent with true economy.

Socony-Vacuum, with a complete line of products, can supply the lubricants best fitted for the requirements of the individual lubricating job as determined by specific operating conditions.

Socony-Vacuum Engineers bring you years of world-wide experience and direct cooperation with manufacturers of equipment. Lubrication Profit is the inevitable result.



SEND FOR THE SOCONY-VACUUM REPRESENTATIVE: *The services of a trained Socony-Vacuum Engineer are available at all times in helping your men to solve lubrication problems.*

SOCONY-VACUUM OIL Co.

INCORPORATED

STANDARD OIL OF NEW YORK DIVISION • WHITE STAR DIVISION • LUBRITE DIVISION • WHITE EAGLE DIVISION
WADHAMS OIL COMPANY • MAGNOLIA PETROLEUM COMPANY • GENERAL PETROLEUM CORPORATION OF CALIFORNIA



North Carolina Colleges Annual Style Show

On April 22nd the tenth annual Style Show, conducted by the Textile School of North Carolina State College and the home economics departments of North Carolina colleges for women will be held at Raleigh. Started in 1928, in order to aid in popularizing cotton and rayon products, this Style Show has developed into one of the important events of the year at State College and has materially benefited Textile students because it affords them an opportunity to study the type of fabrics which appeal to young women.

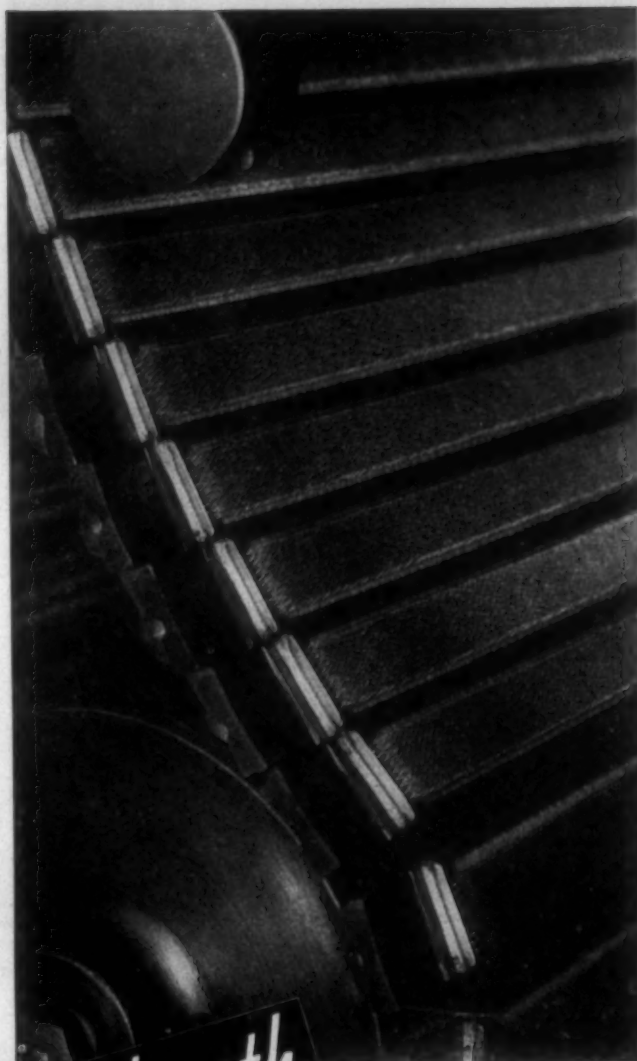
This year the cooperating institutions are: Appalachian State Teachers College, Boone; Catawba College, Salisbury; Elon College, Elon College; Flora Macdonald College, Red Springs; Greensboro College, Greensboro; High Point College, High Point; Louisburg College, Louisburg; Meredith College, Raleigh; Peace Junior College, Raleigh; Salem College, Winston-Salem; Woman's College, University of North Carolina, Greensboro.

Fabrics designed and woven in the Textile School have been supplied to 138 young women who, as a part of their classroom work in home economics, will make costumes which they will model at the Style Show. Thus, these annual Style Shows demonstrate to the public the high calibre of work done by the Textile students at State College and by young women in the home economics departments of the cooperating institutions.

Immediately following the Style Show, which will be held in Pullen Hall at 2 P. M., the Textile Building will be open to the public and the Textile students will hold their 18th annual Students Textile Exposition. For weeks these students under the direction of M. B. Payne of Kannapolis, a member of the senior class who was elected superintendent of the 1937 Exposition, have been preparing for this event and visitors to the Textile Building will see Textile students demonstrate the processes required to transform raw cotton into finished fabrics and hosiery.

Patented Leasing Device

Simpson J. Adams, superintendent of the Spencer Mills, Inc., Spindale, N. C., has patented a device intended to form an end and end lease at the front of the slasher. It is especially adaptable for rayons and pure silk. The idea for an end and end lease is to get the warp in the loom so the ends will weave off the beam perfectly straight. In other words, with an end and lease, the fixer is able to tie in a new warp where a warp has just run out of the loom, and is able to tie No. 1 end to No. 1 end in the pattern, No. 2 to No. 2, No. 3 to No. 3, etc. Thus the ends will run off the beam the same as they were put on. This enables the mills to get a straight warp instead of the old system where they draw in or tie in repeats, hoping they have a straight warp. By this system the inventor claims a perfectly straight warp is obtained which is cheaper to put into the loom and increases production quality. This patented device was on display last week at the Textile Exposition in the Steel Heddle booth.



Ashworth
PIONEERS IN
CARD CLOTHING

TOP FLATS RECLOTHED

We maintain 6 repair shops for reclothing top flats. These shops are located in the various important textile centers (see signature). Send YOUR top flats to the most convenient address.

Our many years of experience and adequate facilities are your assurance of prompt and satisfactory service.

ASHWORTH BROS., INC.

Woolen Division; AMERICAN CARD CLOTHING CO.

Factories in Fall River, Worcester and Philadelphia

Sales Offices and Repair Shops in Charlotte, Atlanta and Greenville

Southwestern Representative: Textile Supply Co., Dallas, Tex.

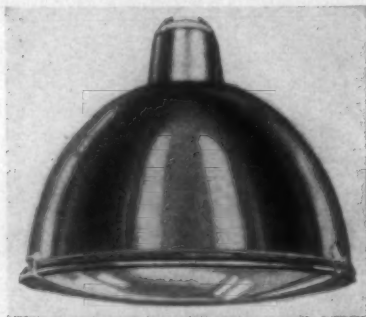
PRODUCTS AND SERVICES: Card Clothing for Cotton, Wool, Worsted, Silk and Asbestos Cards and for All Types of Napping Machinery; Brusher Clothing and Card Clothing for Special Purposes; Lickerin Wire and Garnet Wire; Sole Distributors for Platt's Metallic Wire; Lickerins and Top Flats Reclothed at All Plants.

WHAT'S NEW

In Textile Mill Equipment and Processes

250-Watt Mercury Lighting Reflector

Westinghouse Enclosed Aluminum Dome Type Low Mounting units are said to provide intensive general illumination where the mounting light is not over 20 feet. Higher intensi-



ties are claimed on the working plans, with minimum losses on the side walls.

The unit consists of deep bowl type aluminum reflectors, a dust-tight cover, various types of hoods for 1/2" conduit and outlet box mounting.

The reflectors are made from 16 gauge commercially pure etching grade aluminum sheet. The medium socket with high heat wax and nickel plated interior is rigidly mounted in the hood to properly locate the lamp in the reflector.

The clear glass cover is hinged directly to the reflector bead, supported at three points. It is released by unsnapping two latches. A heavy waterproof felt provides a gasket between reflector and lens.

The entire reflector is finished by the Alzac process for greater permanence and ease of cleaning.

New G-E Screenless Open Textile Motor

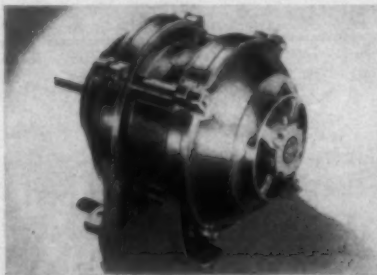
A new screenless open motor has been announced by General Electric for textile service. The ventilating system of the new motor is designed with particular attention to positive lint expulsion. Any free lint or dust in the ventilating air is said to be forced through large, unobstructed air passages and effectively discharged through large openings in the stator frame. Among the features are the

size of the air inlet and discharge openings, the smooth contours of the air passages, and the design and location of the fans.

The makers state that the motor is furnished with an indestructible rotor with a cast-aluminum winding, and smooth, solid end rings. Cast fans are securely keyed to the shaft. These fans have widely spaced blades with smooth surfaces to prevent the accumulation of lint.

The stator laminations are riveted between the end frames under high pressure. The coils, which are of the random-wound type, are compactly and uniformly wound to help provide a clear air passage between them and the end shield.

The end frames are of malleable iron and the outer and inner rings and cross-pieces form an arched truss of great rigidity and strength. Cast-



iron end shields provide a rigid structure to support the ball bearings. Large openings are shaped and located to direct the air to the fans without intervening baffles. Inside surfaces are smooth, and the clearances are of generous size to assure easy passage of lint.

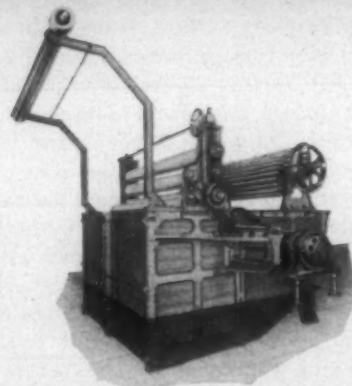
New "Fleet Line" Rope Soaper

The machine illustrated is for use in cotton and rayon printing and finishing plants for soaping after printing and for bleaching certain classes of fabrics. It has one or more compartments through which the goods travel spirally.

Innovations in design include among other features a triple nip stand which effects a double squeeze of the fabric. The rolls of this stand can be utilized to run in tandem or to give the fabric a double S turn

(wrapping around the rolls 50 per cent in so doing).

A second new feature is a stainless steel trough under the squeeze rolls which collects dirty water from the



goods and drains it off to one side into the sewer or back into an earlier compartment to use over again on dirtier cloth.

The tub is comparatively shallow with exceptional length from front to back, making for smooth handling of the fabric and minimum lifting strain. It can be furnished in heart stock cypress or in all stainless steel construction with any type of reel and any arrangement of rolls desired.

Handbook of Interior Wiring Design

A Joint Committee, with representatives from each branch of the electrical industry, has prepared a "Handbook of Interior Wiring Design" which has just been published, according to an announcement received from the National Electric Manufacturers Association.

The following quotation from the "Foreword" of this book indicates clearly its purpose and scope:

"This Handbook surveys the field of wiring adequacy for buildings. It treats of the electrical needs of the residence, factory, office or store—it interprets modern practice in installing wiring—if conforms with the requirements of the American Standard Codes set up for fire prevention and personal safety. It surveys the field not only from the viewpoint of the designer or the seller. It is not a booklet on 'how' to wire in the

sense of covering specific wiring materials and their methods of installation—it is a booklet on 'why' adequate wiring is needed, 'what' must be installed to supply those needs, and 'where' it should be placed.

"In preparing this material, it was realized that the planning and designing of large or complex electrical installations requires the special experience and capability of architects and consulting engineers. Small jobs may be benefited as frequently, but unfortunately this is not always considered economically feasible. Therefore, while every attempt has been made to include all factors of small jobs, only an outline of procedure is indicated for larger ones."

The "Handbook of Interior Wiring Design" consists of 80 pages and is 8½ by 11 inches in size.

Copies may be obtained from the National Electrical Manufacturers Association, 155 East 44th Street, New York, N. Y.

400-Watt Combination Mercury-Incandescent Lighting Units

For applications of industrial lighting where color correction is desired, the Westinghouse combination unit effectively and efficiently mixes the lumens of the 400-Watt High Intensity Mercury Lamp with a quantity of light lumens from incandescent lamps. It is designed for use on mounting heights of 12 to 18 feet.

The complete unit consists of an aluminum reflector with socket assembly and a monax diffusing banded glass bowl. The reflector is made from No. 14 gauge etching grade aluminum sheet. The entire socket assembly, which consists of three medium sockets for the incandescent lamps symmetrically spaced about the

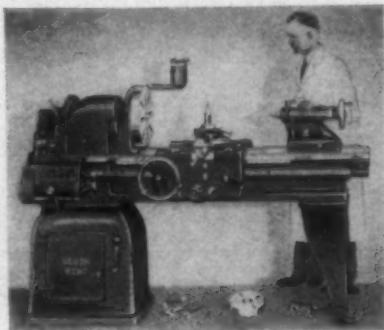


special skeleton socket for the mercury lamp, are attached directly to the top of the reflector. A slip type louvered cover provides sufficient ventilation for the sockets and allows for wiring or inspection of wiring after reflector is hung. It is arranged for mounting on ½" conduit.

South Bend Underneath Belt Motor Drive Lathe

The South Bend Lathe Works, South Bend, Indiana, announces a new line of back-gear, screw, cutting, precision lathes in the new Underneath Belt Motor Drive. The new series of lathes are offered in 9", 11", 13", 15" and 16" swing, and in bed lengths from 3' to 12'.

The new underneath belt motor drive is unusually compact and is said to be silent, powerful, and economical in operation. The motor and driving mechanism are fully enclosed in the cabinet leg underneath the lathe headstock. There are no exposed pulleys, belts, or gears and no overhead belts or pulleys to obstruct vision or cast shadows on the work, according to the makers.



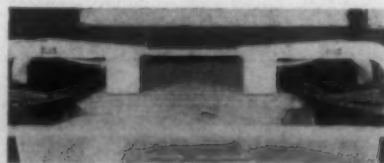
The belt drive is the outstanding feature, as it is silent in operation and provides a smooth steady pull free from vibration and chatter. Power is transmitted from the motor to the countershaft by V-belt, and from the countershaft up through the lathe bed to the headstock cone pulley by a felt leather belt.

The company is issuing a new catalogue, No. 96, containing descriptions of these lathes with accompanying illustrations giving valuable instructions on lathe practice and operation. Any reader interested in securing a free copy may write the Technical Service Department, South Bend Lathe Works, South Bend, Indiana, mentioning this publication.

G. E. Announces Skew Photo- Electric Control

General Electric has developed a new photoelectric control for operating a cloth-straightening device which is said to remove skew (deviation from straightness) from cotton cloth during the tentering or stretching process. Where patterns are to be

printed on a cotton fabric, it is additionally important that the weft, or crosswise threads, be square with the warp, or lengthwise threads, because figures or patterns printed on a distorted weave will themselves be



distorted when the printing process is complete. The new G-E control is said to assure straighter cloth at higher speeds and reduce operator fatigue.

The operation of the new control centers around two phototubes which are mounted over the cloth, one on each side of the tentering machine. Light sources are located beneath the cloth and directly under the phototubes receive an equal number of light flashes between threads if the cloth is straight. If the cloth becomes skewed, however, one tube receives more frequent light flashes than the other. In consequence, the frequencies on the tubes will be unequal and, by means of amplifiers and a frequency responsive circuit, this inequality of frequencies will operate relays which, through a magnetic switch, control the operation of a straightening motor. This motor in turn advances or retards one edge of the cloth with respect to the other, thereby removing the skew.

The control is said to be sensitive over a wide range of operation. Cloth speeds may vary from 20 to 140 yards per minute, and the weft-thread count may vary from 20 per inch in open woven curtain material to 100 per inch in closely woven shirting.

Judson Offers First Aid Study

A first aid class will be started at Judson Mill, Greenville, S. C., with Charles Lawton as instructor, it has been announced by Mrs. Margaret Calhoun, executive secretary of the Greenville Red Cross chapter.

Twenty-four male employees of the plant will take the course, with classes being held twice a week. Chapter officials are planning to start classes in every textile plant in the country if possible.

Jesse D. Brown, of Union Bleachery, is chairman of first aid for the local chapter.

Personal News

W. L. Graydon has been appointed superintendent of the carding division of the Upper Mill at Pilzer, S. C.

James R. Wilson of Greenville has been appointed superintendent of the Mary Louise Mills at Mayo, S. C.

George Sexton has resigned as day foreman of weaving at Commander Mills, Sand Springs, Okla.

J. W. Quinn, superintendent of the American Yarn and Processing Company's spinning mills of Mount Holly, is ill of pneumonia at a Gastonia, N. C., hospital.

D. H. Anderson, Pacolet textile manufacturer, will have charge of the mill, which will employ about 125 persons.

J. L. Becknell has been promoted from loomfixer to second hand weaving, Springs Cotton Mills, Fort Mill Plant No. 1, Fort Mill, S. C.

E. J. Willingham has been promoted from fixer to second hand weaving, Joanna Cotton Mills, Goldville, S. C.

Pat Wofford has been promoted from head loom fixer to foreman day weaving at Commander Mills, Sand Springs, Okla.

B. B. Blackwelder, president of the A. A. Shuford Mill Co., Hickory, N. C., accompanied by his wife and daughter, is spending several weeks in Florida.

C. Kistler of Spindale, N. C., has accepted the position of overseer of carding at the Smithfield (N. C.) Mfg. Co.

Claude Kay, formerly of Draper, N. C., has been made superintendent of weaving division units Nos. 1, 2, and 3 at Pilzer Mfg. Co., Pilzer, S. C.

John W. Simpson, Sr., former banker, has resigned the presidency of the Bank of Commerce, of Morristown, Tenn., to become associated with his son, John W. Simpson, Jr., in the yarn brokerage business in Greensboro, N. C.

G. C. Heyward has accepted a position as Assistant Superintendent at the Entwistle Mfg. Co., Plant No. 3, at Rockingham. He was formerly with Springs Cotton Mills, Fort Mill Plant No. 1, as overseer of weaving.

J. C. Godfrey has been promoted from second hand to overseer of weaving at Springs Cotton Mill, Fort Mill Plant No. 1, Fort Mill, S. C. Mr. Godfrey was formerly with Barber-Colman Co., installing spoolers and warpers.

A. L. King is now overseer of weaving at the Monroe Cotton Mills, Monroe, Ga. Mr. King was formerly in charge of the weave room on the second shift at the Manchester, Ga., plant of Callaway Mills.

Herman Cone, treasurer of the Proximity Manufacturing Co., Greensboro, N. C., has been named by Gov. Hoey of North Carolina as a Trustee of the Jackson Training School at Concord, N. C.

Martin L. Cannon, Jr., son of the Davidson Mills, Inc., president, has been made assistant to Earl H. Brown, manager of the Carolina Textile Corp. at Dillon, S. C., one of the textile units controlled by Martin L. Cannon, Sr.

James M. Cathcart, Jr., son of the general manager of the Anderson Cotton Mills, has taken a position with the Chiquola Mills of Honea Path and will be connected with that plant in the capacity of an assistant superintendent.

He is a graduate of the textile department of Clemson College. Following his graduation some two years ago he has been connected with the Anderson Cotton Mills where he has gained much practical experience in textile work.

L. Rheinhardt has tendered his resignation as superintendent of the Jennings Cotton Mill and has been succeeded by Lewis N. Peeler, formerly night superintendent of the Marlboro Cotton Mills spinning division, Bennettville, S. C., unit.

M. D. Collins has been appointed superintendent of the weaving division of the Durham Cotton Manufacturing Co. Mr. Collins came here from Columbus, Ga., where he has been connected with the Eagle and Phenix Mills for approximately five years, two years of that time being superintendent of the weaving division.

W. E. Mason of Greenville and R. C. McCall of Liberty will head the recently-formed Queen Anne mills of Ellenboro, N. C., capitalized at \$100,000, it was announced.

The mill was formerly the Ellenboro Manufacturing company. Improvements will be made in the plant and operations begun at an early date.

W. H. Hand With Geo. E. Sherman Co.

W. H. Hand has resigned his position as dyer with the Wrenn Hosiery Mills, Thomasville, N. C., to become Southern representative of the Geo. E. Sherman Co. of Brooklyn, N. Y., manufacturers of oils, soaps, and finishes. Mr. Hand is an experienced dyer with twelve years practical experience in textile plants.

CLINTON STARCHES

FOR ALL TEXTILE PURPOSES

Manufactured by

Clinton Company

CLINTON, IOWA

QUALITY
SERVICE

T. W. Church, manager of the Highland Park Mills, and Charles H. Stone, dyestuff distributor, have been elected directors of the Rotary Club of Charlotte, N. C.

Bristol, Va., to Get Rayon Weaving Plant

Plans for construction of a new \$100,000 rayon weaving plant in Bristol, Va., by interests affiliated with Burlington Mills, Incorporated, have been revealed by J. Spencer Love, president of the corporation.

Mr. Love said that a two-story brick and steel building, 100 by 150 feet, is contemplated and, when completed, will give employment to 200 to 250 persons. He said plans for the building have been completed and that the beginning of actual work on it is predicted upon the closing of property negotiations now pending.

Burlington Mills, Incorporated, whose home offices are located in Greensboro, operate more than a score of textile units in cities in North Carolina and adjoining states. The firm recently inaugurated an expansion program of which the contemplated plant at Bristol is one phase.

Plans for the construction of a new office building at the corner of Eugene and Bellemeade streets in Greensboro, N. C., were recently announced by the Burlington Mills, although certain details remain to be ironed out before work on the building will start, Mr. Love said. It is expected this building will cost around \$75,000.

Coming Textile Events

APRIL 19-23

Knitting Arts Exhibition, at Commercial Museum, Philadelphia, Pa., under the joint auspices of the National Association of Hosiery Manufacturers and the Underwear Institute.

APRIL 20

Textile Foundation Annual Conference in Washington.

APRIL 22

Students Textile Exposition, in connection with the North Carolina State College Style Show, Raleigh, N. C.

APRIL 24

Northern North Carolina and Virginia Division of Southern Textile Association meeting at Lexington, N. C.

APRIL 27

Master Mechanics Div. of Southern Textile Association meeting at Charlotte, N. C.

MAY 12-13-14

American Cotton Manufacturers Association will hold their annual meeting at the Mayflower Hotel, Washington, D. C. Board of Governors meet May 12.

May 14-15

National Rayon Technical Conference, at Washington, D. C.

MAY 31 - June 5

National Cotton Week. Seventh Annual Observance.

JUNE 3-4

Cotton Manufacturers Association 37th annual meeting, at the Cloister Hotel, Sea Island, Ga.

June 11-12

Southern Textile Association annual meeting, at Ocean Forest Hotel, Myrtle Beach, S. C.

Cannon Mills Officers Elected

KANNAPOLIS, N. C.—Officers for Cannon Mills Company were re-elected April 13 as stockholders and directors held annual sessions.

The annual report showed 1936 one of the best years in the company's history, the number of employes in Carolina and Georgia plants increasing from 15,000 to 17,000 during the year.

Those named to the board of directors are J. J. Barnhardt, D. H. Blair, A. L. Brown, C. A. Cannon, A. W. Fisher, G. W. Fraker, A. R. Howard, C. E. Stevenson, Herian Swink, W. J. Swink.

Officers are president, C. A. Cannon, vice presidents, A. L. Brown, J. J. Barnhardt, A. R. Howard, C. E. Stevenson, A. W. Fraker, W. J. Swink, Fredric Williams; secretary, Herian Swink; treasurer, E. Gray Bost; assistant treasurer, Edward Sauvain; assistant secretaries, E. Gray Bost and Joseph J. Boyle.

WENTWORTH

Double Duty Travelers

Last Longer, Make Stronger Yarn, Run Clear, Preserve the SPINNING RING. The greatest improvement entering the spinning room since the advent of the HIGH SPEED SPINDLE.

Manufactured only by the
National Ring Traveler Co.

Providence, R. I.

31 W. First Street, Charlotte, N. C.

Reg. U. S. P. O.



A POWER DOLLAR SAVED IS A PROFIT DOLLAR EARNED

CASCADE and SPIN TWIST brands of Leather Belting will help tremendously in accomplishing this much desired result.

WE SHIP QUICK
OUR GUARANTEE PROTECTS

The Akron Belting Co.

Akron, Ohio

Greenville, S. C.
903-905 Woodside Bldg.
Charlotte, N. C.
910 Johnston Bldg.

Memphis, Tenn.
20 Adams Ave.
Dallas, Texas
221 Sunset Ave.

DARY TRAVELERS

If it's a DARY Ring Traveler, you can depend on it that the high quality is guaranteed—that the weight and circle is always correct, and that all are uniformly tempered which insures even running spinning or twisting.

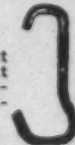
Ask for Prices

DARY RING TRAVELER COMPANY

311 Somerset Ave. Fred H. Dary, Mgr. Taunton, Mass.
Sou. Agents

JOHN E. HUMPHRIES
P. O. Box 343
Greenville, S. C.

CHAS. L. ASHLEY
P. O. Box 720
Atlanta, Ga.





Officers of Students Textile Exposition and Style Show which will be held at the Textile School of North Carolina State College on April 22nd. Reading from left to right: Dr. Thomas Nelson, Dean of Textile School; C. J. Squires of Draper, Assistant Foreman of Yarn Manufacturing; R. E. Dixon of Winston-Salem, Assistant Foreman of Knitting; B. H. Sigmon of Alexis, Assistant Foreman of Designing; T. M. Tyner of Shelby, Assistant Foreman of Weaving; E. S. Horney of Greensboro, Foreman of Dyeing; J. E. Spainhour of North Wilkesboro, Assistant Foreman of Dyeing; E. W. Blackwood of Swepsonville, Foreman of Yarn Manufacturing; M. B. Payne of Kannapolis, Superintendent; W. B. Chalk of Morehead City, Assistant Superintendent; C. E. Johnson of Liberty, Foreman of Knitting; J. A. Boland of Burlington, Foreman of Designing; N. W. Dalrymple of Sanford, Foreman of Weaving, was absent because of other duties, when the picture was taken in front of the Textile Building.

Textile Labeling Bill

A bill to require "informative labeling of textile fabrics and textile products in interstate commerce for the purpose of preventing deception of the public" is now before Congress.

After the term "textile fabrics" as meaning any fabric made of fiber, thread or yarn, and the term "person" meaning an individual, a corporation or association, the bill provides:

"The National Bureau of Standards of the United States Department of Commerce shall have power to make such rules and regulations concerning the labeling, stamping or tagging of textile fabrics as shall be necessary or appropriate to prevent deception of the public. Such rules and regulations may provide for the kind and type of labeling, stamping or tagging of particular classes of textile fabrics and for the proper affixing of such labels, stamps or tags. Such rules and regulations may forbid the inclusion in labels, stamps, or tags of the names of certain kinds of fiber, thread, or yarn, or any names commonly regarded as indicating a textile fabric containing such fiber, thread, or yarn, unless the labeled fabric contains prescribed amounts of percentages of such fiber, thread, or yarn. The National Bureau of Standards shall have power to classify textile fabrics and may apply certain rules and regulations to certain classes of textile fabrics without applying them to other classes. The rules and regulations of the National Bureau of Standards shall be effective upon publication in such manner as the National Bureau of Standards shall prescribe.

"The shipment, delivery for shipment, sale, or offer for sale in interstate commerce by any person, of textile fabrics which are not labeled, stamped, or tagged in conformity with the rules and regulations promulgated pur-

suant to Section 2 hereof is unlawful and shall constitute an unfair method of competition within the meaning of Section 5 of an act entitled "an act to create a federal trade commission to define its powers and duties, or for other purposes," as amended and approved September 26, 1914.

Donald Comer Back From Japan

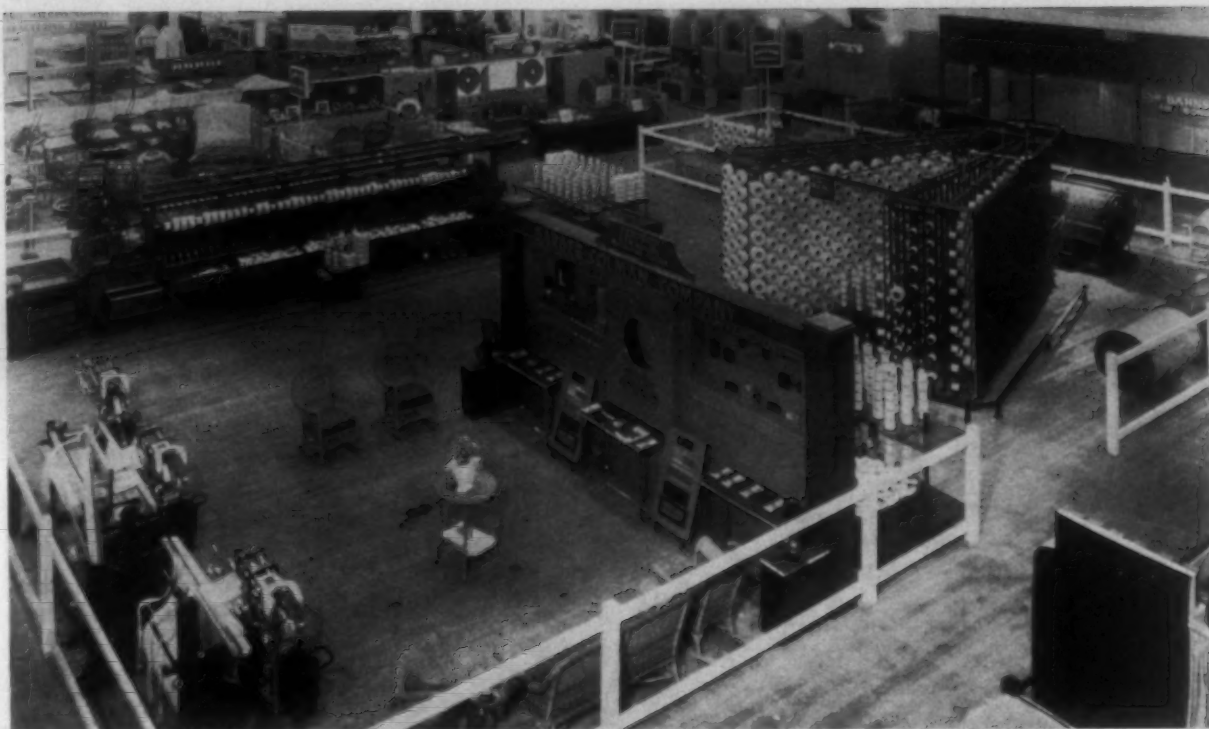
Donald Comer, head of the Avondale Mills' group returned on the Conti di Savoia after an absence from this country of three months. Accompanying Mr. Comer were his wife, and his daughter, Martine.

As is known, Mr. Comer was one of the Cotton Textile Mission which went to Japan to negotiate the quota agreement on shipments of cotton fabrics to the United States.

The Comers flew from Singapore to Rome, being in the air six days. The flight they termed one of the most interesting parts of their entire trip.

Donald Comer has the most pleasant recollections of the dealings with the Japanese industrialists. For Dr. Claudius T. Murchison, president of The Cotton-Textile Institute and head of the Cotton Textile Mission. Mr. Comer has the highest of praise. "Dr. Murchison is peculiarly fitted in many ways to have been the head of this group," Mr. Comer stated repeatedly, as he recalled instance after instance in Japan. In fact, it was the opinion of all in the Cotton Textile Mission, that its components made an exceptional aggregation, in that there was a blending of all the traits to be desired.

Mr. Comer is looking forward to the coming meeting in Washington, May 12-14, of the American Cotton Mfrs. Assn., of which he is president.



Barber-Colman booth at Southern Textile Exposition

Modernizing Plans

Greenville, S. C.—Textile mills of the Piedmont section are spending several millions of dollars for additions and renovations, a survey of 12 such programs either planned or in progress revealed today.

The building or altering plans include:

Anderson Cotton Mills, to be renovated and modernized in the near future at an expenditure of from \$500,000 to \$1,000,000. New machinery will replace all that is out of date, and general improvement will be made.

Gossett Mills, Anderson, work under way on addition, to be used for expansion in offices and operating division, estimated to cost close to \$25,000.

Lydia Cotton Mills, Clinton, has invested \$250,000 in putting the mill in first-class condition and in enlarging it. The company expects to install 403 additional looms, bringing the mill total to 1,208, and will increase the spindles to 50,000.

Clover Spinning Mills, recently organized with capital of \$100,000, will take over the plant of Clover Mills Co., in receivership, and will remodel and install new equipment.

Riverside Mills, Enoree, will construct a one-story addition to cost over \$30,000.

Joanna Cotton Mills, Goldville, will build a one-story addition to accommodate additional looms.

Western Shade Cloth Mills, Goldville, have awarded contract for a two-story addition to house the picker room and other operations.

Victoria Cotton Mills, Rock Hill, and Ninety-Six Cotton Mills, are having machinery overhauled.

Union Bleachery, Greenville, building a 10-family \$35,000 apartment house to relieve congested housing in the mill village.

Changes in Personnel of Armstrong Cork

Announcement has been made of several changes in the organization of the Armstrong Cork Company.

C. Dudley Armstrong, grandson of one of the Company's founders was elected vice-president and secretary of the company by the Board of Directors on March 24th. He succeeds William R. Hamilton, who retired after serving the company as an employee and officer for forty-seven years.

H. R. Peck, general manager of the Building Materials Division of the company, was elected to membership on the Board of Directors, at the annual stockholders' meeting, March 17th. Mr. Peck entered the company's employ in 1920 as a salesman in the Floor Division, and for the past two years served as general manager of the Building Materials Division which he helped to establish.

The company has announced the resignation of Arthur K. Barnes as advertising manager, effective May 1. He will be succeeded by John P. Young, formerly assistant advertising manager, who joined the Armstrong organization in 1924. Ralph Winslow, member of the advertising department staff since 1930, becomes assistant advertising manager. Mr. Barnes served the company for twenty years, five of which were as advertising manager. He has accepted a position as vice-president in charge of sales for the Fontana Farms Company, a community development firm of Fontana, California.

TEXTILE BULLETIN

Member of

Audit Bureau of Circulations and Associated Business Papers, Inc.

Published Every Thursday By

CLARK PUBLISHING COMPANY

Offices: 118 West Fourth Street, Charlotte, N. C.

Eastern Office: 434 New Industrial Trust Bldg., Providence, R. I.

David Clark - - - President and Managing Editor
Junius M. Smith - Vice-President and Business Manager
B. Ellis Royal - - - Associate Editor

SUBSCRIPTION

One year payable in advance	\$2.00
Other Countries in Postal Union	4.00
Single Copies	.10

Contributions on subjects pertaining to cotton, its manufacture and distribution, are requested. Contributed articles do not necessarily reflect the opinion of the publishers. Items pertaining to new mills, extensions, etc., are solicited.

A Successful Exposition

THE Southern Textile Exposition, held at Greenville, S. C., last week was a distinct success and exceeded in every respect the eleven previous Expositions. Not only were the exhibits attractively arranged but many of them displayed new ideas in machinery and equipment and most of the exhibitors reported substantial orders booked during the week.

The attendance, especially that of mill men, was far in excess of that of any former Exposition and most of the visitors gave evidence that they came for the specific purpose of studying improved machinery and new equipment.

All during the week, the Textile Bulletin issued bulletins containing the names of mill men in attendance, and distributed such bulletins to the exhibitors. During the week we issued 59 attendance bulletins as against a total of 35 during the 1935 Textile Exposition, which would indicate an increase in attendance of about 70 per cent. Our ability to give the exhibitors the names of the mill men was due to the fact that most of them paid us a visit soon after entering the hall.

The vice president of a large manufacturer of textile equipment stationed himself on the second floor and for fifteen minutes watched the mill men as they gathered around our booth and noted the friendly manner in which they greeted members of our staff. He later made known his

presence and said that his eyes had been opened relative to our standing in the Southern textile field.

It certainly gave us much pleasure to meet so many of our old friends and we also made many new acquaintances.

The 12th Southern Textile Exposition was a success from every viewpoint.

Win Or Lose

IN SEVERAL editorials which we have written from week to week, we have tried to appeal to reason and to the solid thinking employees in the textile industry.

Last week, we tried to show that the \$500,000.00, alleged to be in sight, and which has been headlined in the press, is, if it does exist, for the organizers and not one penny appropriated for any employee on strike.

For the sake of argument,—not that we have by any flight of the imagination conceived of such a thing,—let us make a few suppositions.

First, suppose that all of the textile workers in the South should strike. There are easily 300,000. To feed them on a basis of \$2.00 per week, which is bare subsistence would cost \$600,000.00; at \$4.00 per week the cost would be \$1,200,000.00. If the strike should last 8 or 10 weeks, it would cost someone ten or twelve million dollars to feed the strikers or they would have nothing and starve. This ten or twelve million dollars looks much larger for the 300,000 workers than the half million dollars for the organizers. Again, we would like to say that the organizers already have their money in the bank, while the money to feed the strikers is only in promises as usual and will probably not be paid.

If we go on with our calculations and say that the average pay of these workers is the minimum wage, twelve dollars per week, and that is entirely too low, because the majority of workers make far more than that, we can multiply \$12.00 by 300,000, the number of workers, and the weekly pay roll is \$3,600,000.00. If a strike should last eight or ten weeks, the total loss of income for the workers would be between twenty-eight and thirty-six millions of dollars.

In short, each employee would lose between \$100.00 and \$150.00 for the period. He might lose far more. He might lose his car, his radio, his furniture, his stove, in short many of his private and personal properties, which would be redeemed by his inability to meet installment payments. Many Southern textile operators know that they have lost such things in other strikes.

There is also the stress and strain, the hate and prejudice and many of those social and psychological reactions that develop during the period.

Now let us make another supposition and suppose at the end of the strike the C. I. O. should win and all of their demands were met. There would be but little change in wages and hours and working conditions from those that now exist. Practically 85% of the mills are doing everything now that the C. I. O. demands, except to name them as the sole bargaining power. But suppose they should win and each employee should secure an increase in pay amounting to \$2.00 per week, this would mean a yearly increase in salary of \$100.00. Out of that increase the dues to the National organization would likely be \$12.00 per year, and to the local organization \$12.00 to \$18.00 per year. These amounts, subtracted from \$100.00, would leave \$70.00 to \$75.00 profit.

But if the strike or cessation from work should last as long as our supposition, the average loss would be \$100.00 to \$150.00 for the strike.

Taking only that one point of view, does it seem sensible to lose \$100.00 to \$150.00 in order to make \$70.00 to \$75.00?

There is nothing phoney in these figures. They are commonsense and need to be studied. There is more money to be gained in present condition and situation of employees than there is in the way the C. I. O. offers.

There is no increased liability of losing car, radio, refrigerator, furniture and many of those other things bought on the instalment plan.

There are no frictions and hates and lost time and suffering invited under the present system. These days demand the serious study of every one. They are revolutionary in their actions and unless we safely direct our acts, we may lose our sense of right and wrong and get lost in trying to follow some new leader and some new doctrine.

Labor is not alone in its perplexing problems. Every one is having his fundamental beliefs challenged and some new doctrine handed to him. We must be rather slow to change from the fine old principles, tried and true, to take up some revolutionary idea, whose values have not been tried in the crucible of experience.

Wagner Labor Law Decision

WE prefer to read and study the statements of the Justices of the United States Supreme Court before commenting upon the recent de-

cision upon the Wagner Labor Law but will discuss same fully in our next issue.

If the National Labor Relations Board is in position to guarantee collective bargaining to all workers and to arbitrate all disputes over wages, hours and working conditions, there can be little to be gained by joining a national union and paying dues.

It appears that there is now nothing which a labor union can do for an industrial employee that he has not already been guaranteed by the Wagner Law.

Paying dues to a union organized under the new conditions which exist as the result of the Wagner Law decision appear to us to be about as sensible as personally paying a mail carrier for the delivery of letters.

Price Per Pound

AFTER resting much of the winter, especially during inclement weather, the farmers do a few days plowing and then plant cotton seed. When the cotton plant is a few inches high they chop-out and until about the first of July they work the fields a few times in order to keep out the grass.

From the time the blooms appear until the bolls are ready for picking they do nothing connected with the cotton field. When the bolls are picked they haul the cotton to the gin and get 13 to 14 cents per pound.

Men dig iron ore from the ground, and send it through great steel mills while other men tap rubber trees in a far off land and send it several thousand miles to the United States. Other men design engines and parts and great manufacturing establishments assemble these engines and parts and tires and produce automobiles which will travel at the rate of 70 miles per hour.

Those automobiles which are prepared for the small car field sell for 19 cents per pound on the tires when ready for operation.

The farmer who used the soil and worked a rather limited number of days gets only 5 cents per pound less for his cotton with leaf and trash in it than the selling price of an automobile with its complicated mechanism.

A man goes to town and buys an automobile with several hundred parts for only 19 cents per pound while his wife visits a nearby store and pays 25 cents per pound for a steak. The automobile is a product of the much condemned "machine age" whereas the cotton and the steak are produced in exactly the same manner as in the "horse-and-buggy" days of long ago.



Stonhard

RESURFACER WILL PREVENT THIS



RUTS and holes in floors of TEXTILE MILLS must be smooth, dustless and sturdy. Your handy man can keep your floors fit for your use and **SAVE YOU MONEY.**

Complete information in our booklet.
Write for **FREE COPY.**

STONHARD COMPANY

1325 Callowhill St. Philadelphia, Pa.

Mill News Items

EATONTON, GA.—The Imperial Cotton Mills have installed new equipment, which includes one new Lane conditioning machine.

HILLSBORO, N. C.—At the Eno Cotton Mills, manufacturers of combed broadcloths, all of the machinery is being overhauled. The company has 29,680 spindles and a battery of 1,006 looms.

REIDSVILLE, N. C.—At the Alamas Hosiery Co. work has been going forward on installing additional machines, which will more than double the capacity. The company makes women's full-fashioned silk-hosiery.

MORGANTON, N. C.—Work has been completed on installing an airplane marker on the flat roof of the Morganton Full-Fashioned Hosiery Mill. The name "Morganton" is painted in letters 10 feet high.

FLORENCE, ALA.—With the best business in their history, the Gardiner-Warring Co. and Cherry Cotton Mill, Florence, affiliated plants, will have a total payroll exceeding \$500,000 this year, Jewett T. Flagg, president of both concerns, made known.

RUTHERFORDTON, N. C.—Clark Knitting Co., Inc., men's rayon and cotton hose, has installed 12 additional machines, and is planning further expansion. Before this, the company operated 27 circular knitting machines and auxiliary equipment.

SPARTANBURG, S. C.—Erection of a new office building for the Whitney Manufacturing Co., at a cost of around \$2,500 is being completed, according to V. M. Montgomery, treasurer and general manager.

BLADENBORO, N. C.—New equipment, which has been installed in the Bladenboro Cotton Mills, includes long draft spinning, new cards, new winders, and a new warper. These mills have about 40,000 spindles. Improvements have also been made to the mill building, where needed.


WAYNESBORO, VA.—Work is said to be going forward rapidly at the Crompton-Shenandoah Co. on an addition which will cost approximately \$79,000, and will employ between 100 and 200 operatives. This addition is scheduled to be completed late in April or in May. The company is engaged in the manufacture of corduroys and velveteen.

DURANT, MISS.—With sale of a \$25,000 bond issue and award of construction contracts the City of Durant will erect at once a building to house the Durant Manufacturing Co., hosiery mill, which will employ 150 to 200 and will have a pay roll estimated at \$60,000 annually. The project is a part of the program authorized by the 1936 Legislature in approving Gov. Hugh L. White's plan to balance agriculture with industry.

MI-CLEANSER

A Cure for Soft Floors

Why Not Investigate
MI-CLEANSER
And The Denison Method of
Textile Mill Scrubbing?




- *LESS SCRUB WATER
- *NO RINSE WATER
- *FASTER SCRUBBING
- *GREATER SAFETY
- *HARDER FLOORS that last longer and clean easier.

Model M-2 Denison Squeegees, highly efficient to clean and dry floors \$2.75 each

ESTABLISHED 1919

THE DENISON MANUFACTURING CO.
ASHEVILLE, N. C.



The House of Service To North and South Established 1904

Seydel Chemical Co.

Jersey City, N. J.

Greenville, S. C. Lowell, Mass.
Harold P. Goller Francis B. Boyer

Mill News Items

BURLINGTON, N. C.—Stockholders of the Burlington Mills have confirmed the action taken at the meeting 30 days ago looking to dissolution of the corporation here and transference of the charter to the State of Delaware.

No definite changes were made, and anything of this nature will be deferred until the new organization is set up.

ELLENBORO, N. C.—W. E. Mason of Greenville and R. C. McCall of Liberty will head the recently-formed Queen Anne mills of Ellenboro, capitalized at \$100,000. The mill was formerly the Ellenboro Manufacturing company. Improvements will be made in the plant and operations begun at an early date.

DANVILLE, VA.—Two construction jobs for the Riverside and Dan River Cotton Mills have been awarded to C. L. Lewis, Lynchberg contractor. Work will cost \$100,000.

Kier room, built of reenforced concrete, will be 150 feet long by 50 feet wide, and is to be ready in 60 days. Two stories are to be added to a four-compartment warehouse.

GREENSBORO, N. C.—J. Spencer Love, president of the Burlington Mills, Inc., and associates, announced recently that plans for a three or four-story modern office building were being designed by his architect, W. C. Holleman, Jr., of Greensboro, on a large lot, recently purchased by Mr. Love and associates, at the corner of Eugene and Bellemead streets, costing approximately \$75,000.

FORT PAYNE, ALA.—Organization of Shugart Hosiery Mills, Inc., is announced by W. Y. Shugart. The Hansard Building in North Fort Payne is being put in readiness for machinery.

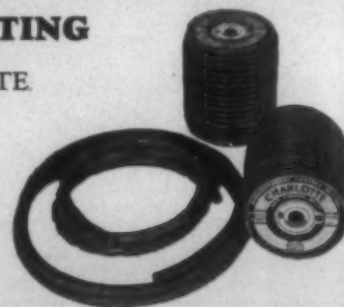
The new hosiery mill will open about April 29, with about 35 employed at the start. Infants' hosiery will be manufactured, with a capacity of 5,000 dozen pairs per month. Mr. Shugart has been connected with the Davis Hosiery Mills for about 12 years.

MEMPHIS, TENN.—Announcement is made that Downcraft, Inc., manufacturers of cotton, wool and down quilts, have completed installation of machinery in its new plant at 59 South Second and will begin operation within the next week or ten days. According to A. P. Fant, industrial engineer for the local Chamber of Commerce, Downcraft, Inc., is the first company of its kind to establish a factory in Memphis. It is expected that the payroll of the firm, which will be a large buyer of cotton and raw wool materials, will exceed \$20,000 annually. The plant will employ approximately 30 skilled operators at the start, it was said. C. C. Belcher, production superintendent for Marshall Field & Co., Chicago, will arrive in Memphis within the next few days to take active charge of the new concern.

ROUND BELTING

by CHARLOTTE

**Higher
Tensile
Strength**



KROMOTAN ROUND, CHARLOTTE ROUND,
PATENT SOLID ROUND, TWISTED ROUND

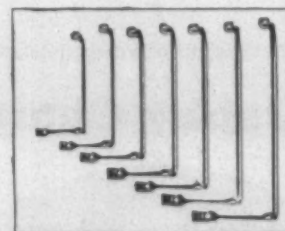
Made in a variety of sizes to fulfill every textile need. The scientific tanning of choice center hides is your assurance Charlotte Round Belting will deliver greater power efficiency and for a longer period.



CHARLOTTE LEATHER
BELTING COMPANY

CHARLOTTE, N. C.

Charlotte Belt Dressing lengthens the USEFUL life of belts.



We Manufacture Flyer Pressers

IN THE LIGHT OF PRESENT DAY COMPETITION IT IS VERY ESSENTIAL THAT YOUR MACHINERY BE KEPT IN THE HIGHEST STATE OF EFFICIENCY.

We specialize in the Repairing and Overhauling of—

—Steel Rolls
Spindles
Flyers
Doffers
Comb Bars

Fly Frames
Spinning Frames
Twisters
Spoolers

A word from you will place our skilled, experienced mechanics at your command.

Southern Spindle & Flyer Co., Inc.
CHARLOTTE, N. C.

*We Manufacture, Overhaul, Repair, Re-arrange and Erect
Cotton Mill Machinery*

W. H. MONTY, Pres. and Treas.

Mill News Items

LEXINGTON, N. C.—Turner Halsey Co., of New York, has been appointed selling agent for the Dacotah Cotton Mills, Inc., of Lexington. This mill's production will comprise chambrays, play cloths and gingham.

RICHMOND, Va.—Plans have been drawn for an addition to the plant of the Virginia Rayon Mills at Orange, Va. The addition will be a two-story brick structure, 70 by 120 feet. E. E. Burruss, of Charlottesville, is the architect.

COCHRAN, GA.—Cochran's L. & H. shirt factory has celebrated its first anniversary. Since it opened for work one year ago in April with 10 workers, it has increased to approximately 200 today with 150 machines in operation. The payroll averages \$1,500 per week.

CLEVELAND, MISS.—Announcement was made recently that a labor survey has been started by civic leaders of Cleveland with a view to preparing for the establishment of a hosiery mill under the provisions of the Mississippi Industrial Commission Act.

TUXEDO, N. C.—The Green River Mills, Inc., manufacturers of fine combed mercerized yarns and ply yarns in a variety of numbers, ranging from 30s to 100s, is operating at full capacity with orders on hand to continue to operate on this schedule for the next six months.

TRYON, N. C.—At the Southern Mercerizing Co., plans are announced for the installation of five additional Whitin quillers and a number of 102-Model winders. This equipment will be installed in the near future, following the construction of an addition measuring 100 by 100 feet.

LENOIR, N. C.—The first pair of infants' hose to be knit on a commercial scale here came from the new knitting machines now installed temporarily on the second floor of the O. P. Lutz Furniture Store, where sample lines are being turned out. J. A. Ballinger, in charge, stated that the new hosiery mill will be completed in 30 days. Forty people will be employed to manufacture 70-gauge short length infants' sizes.

MERIDIAN, MISS.—Stanton D. Sanson, president of Ajax Hosiery Mills, and Dold Smith, of Vertex Hosiery Co., are sponsors of the Meridian Hosiery Mills at Meridian, Miss., it was learned recently.

Mr. Sanson said it was a personal enterprise, however, in which Ajax is not interested. He added that none of the machines of his company, formerly operating at Phoenixville, Pa., are being installed at Meridian. The Mississippi mill, he said, would be one of the most modern in the country and would house 66 new full-fashioned machines. Operations will probably begin there this fall. Training of knitters has already begun at vocational schools at Meridian and Laurel, Miss., according to news dispatches from the two towns.

DRONSFIELD'S PATENT
"ATLAS BRAND"
EMERY FILLETING

"The New Flexible" "Needs No Damping"

Stocks in all the leading Mill Centres

TRADE MARK
ATLAS

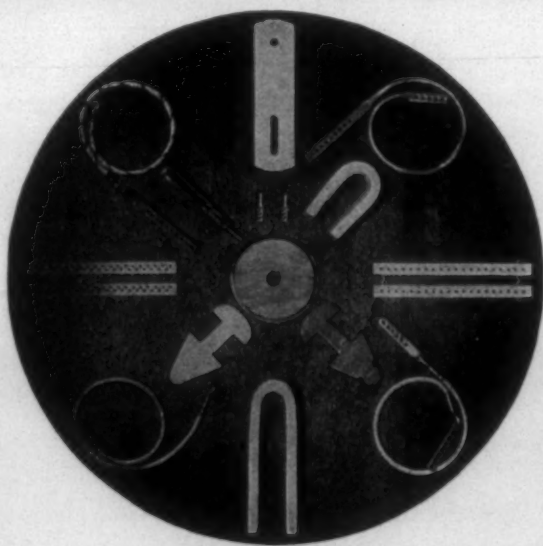
The Standard Card-Grinding Medium

GUARANTEED "A" QUALITY
THE ONLY QUALITY WE MAKE

Used the wide world o'er, like
The DRONSFIELD CARD-GRINDERS

Stocked by the
Principal Mill
Supply Houses
and
Card-Clothing
Makers

Rice Dobby Chain Co.



Millbury, Massachusetts

Southern Textile Association Luncheon

Approximately 130 members and guests of the Southern Textile Association attended the luncheon at the Poinsett Hotel, in Greenville, April 9. The luncheon was one of the features of Association Day at the Southern Textile Exposition.

Dr. E. W. Sikes, President of Clemson College, delivered the principle address. Short talks were made by Fred L. Still, President of the Association; Edwin M. Holt, Vice-President; L. J. Rushworth, Chairman of the Board of Governors; Edwin Howard, Chairman of Associate Members; W. G. Serrine, General Manager of the Southern Textile Exposition; E. T. Picard, Chief of Textile Division of the Department of Commerce, and Secretary and Treasurer of Cotton Institute. A number of past Presidents and Officers of the Association were present and were presented by Fred Still, President. B. Ellis Royal, newly elected Secretary and Treasurer, was also introduced.

Seated at the President's table as honor guests were the following past presidents: W. M. Sherard, H. H. Boyd, John W. Clark, Marshall Dilling, W. H. Gibson, Jr., Carl R. Harris, T. W. Mullen, Frank K. Petrea, Culver Batson, and John A. McFalls.

The arrangements for the luncheon were made by a committee headed by Edwin Howard, Chairman of Associate Members of the Association.

Winner of "Old Timer" Contest

During the Southern Textile Exposition we displayed a group photograph of the meeting of the Southern Textile Association at Greensboro, N. C., in 1912 which was twenty-five years ago and we offered a prize of \$10 for the man who could give the names of the largest number of the 130 men shown in the picture.

The leaders in the contest and the number of those identified by each is as follows:

L. W. Thomason, Charlotte, N. C.	69
J. O. Edwards, Charlotte, N. C.	51
H. H. Iler, Greenville, S. C.	51
R. H. Armfield, Greensboro, N. C.	36

The \$10 prize was therefore won by L. W. Thomason, southern manager for the N. Y. & N. J. Lubricant Co., and a check for that amount has been forwarded to him.

Rumored Brazil Cotton Offered in U. S.

Crop damage reports from South Texas are becoming more widespread. Goliad county advises that about half of the cotton uplands and almost all on lowlands crops there had been destroyed and will have to be replanted. Dallas reported that considerable frost damage had occurred north and west of Corpus Christi.

Reports are current in cotton trade quarters that 8,000 bales of Brazilian cotton were being offered to domestic mills at prices considerably below the cost of comparable American staple. Other rumors placed the offerings as high as 25,000 bales and prices some \$2 a bale below American.

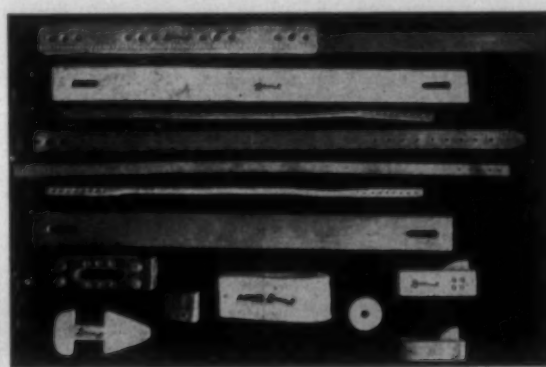


Illustration Shows a Few of the Different Straps Manufactured By Us

All of our textile leathers are manufactured from Oak Tan and Hairon Leather. Our Oak Tan Strapping is made from packer hides, selected for substance, weight and fibre strength. Our Hairon Leather is made from foreign hides that are selected for textile purposes and is especially adapted for this work, owing to the extra length of the fibres.

We are thoroughly familiar with all textile leathers pertaining to cotton, woolen, worsted, silk and rayon looms.

Bancroft Belting Co.

145 High St.

Boston, Mass.

Southern Agent

Ernest F. Culbreath

P. O. Box 11

Charlotte, N. C.

THE DAVID BROWN COMPANY

FOUNDED 1883

MANUFACTURERS OF
"HIGH GRADE"
BOBBINS, SPOOLS,
ROLLS, CONES,
SKEWERS
AND SHUTTLES
OF EVERY DESCRIPTION
FOR TEXTILE MILLS

MAIN FACTORY AND GENERAL OFFICES

LAWRENCE, MASS.



**Seydel-Woolley
Company**

ATLANTA

Textile
Chemicals
For
Best Weaving

A Company is
Known by the
Customers It
Keeps

**The
Wytheville Woolen Mills, Inc.**
Wytheville, Va.

Manufacturers of
**SLASHER, CLEARER and ROLLER
CLOTHS**

Appreciates your business and solicits the continuance of same through the following authorized dealers:

CHARLOTTE SUPPLY CO., Charlotte, N. C.
MONTGOMERY & CRAWFORD CO., Inc., Spartanburg, S. C.
SULLIVAN HARDWARE CO., Anderson, S. C.
SOUTHERN BELTING CO., Atlanta, Ga.
RUSSELL A. SINGLETON, Jackson, Miss., and Dallas, Texas.
PROXIMITY MERCANTILE, Greensboro, N. C.



BALING PRESS

Motor Drive, Silent Chain, Center of Screw.
Push Button Control—Reversing Switch with limit stops up and down.
Self contained. Set anywhere you can run a wire.
Our Catalogue sent on request will tell you more about them.

Dunning & Boschert Press Co., Inc.
328 West Water St. SYRACUSE, N. Y.

IF IT'S PAPER
Send Us Your Order

Cloth Winding Boards
Jacquard Board—Beaming Paper
Toilet Tissues
Twines—Wrapping Paper—Boxes, etc.

DILLARD PAPER CO.
GREENSBORO, N. C. GREENVILLE, S. C.

Fire Protection

(Continued From Page 5)

the high speed spooling and warping equipment, such as the Barber-Coleman spooler and warper. There is no actual fire hazard in these machines, but their capacity is such that a good many mills have installed only one unit. The insurance companies write for a good many mills what is called Use and Occupancy insurance. Briefly, this insurance is intended to take the place of an operating mill when the machinery can not be operated by reason of fire, sprinkler leakage, windstorm, etc. The point which I wish to make is that a single unit of high speed spoolers and warpers is a bottle neck which controls the entire output of the plant. If this unit goes out of commission for any reason, the plant is shut down. I do not know that it is practical to do so, but for some time I have felt that it would be wise for the manufacturer to install multiple units of this character, as much for his own protection as to minimize the insurance loss where U & O insurance is carried and not all mills see fit to carry this type of coverage. Also a machine of this character can very well break down from a cause which is not covered under the insurance contract.

In conclusion gentlemen, I want to emphasize very strongly the fact that while I have offered certain compromise suggestions, particularly for the handling of Picker Room conditions; I must insist that it be understood that these are compromises and must not be accepted as standards. We, the insurance carriers, feel that the standards developed through years of experience, which has been burned into us, are worth while, and should be maintained even at considerable additional expense to a mill when a modernization and revamping program is in progress.

I can, I believe, safely compare this condition to a man who has been unfortunate enough to have a leg amputated. He can secure an artificial limb and go on about his business in a fairly satisfactory manner, but he is not as good a man physically as he was, and there will arise certain occasions when he will not be able to handle himself physically with the same agility as he could originally.

Textile Patent

Charlotte, N. C.—John F. Lewis and Charles W. Moseley of Charlotte have been awarded a patent on a stop motion for spinning frames in which the machine is stopped prior to doffing, while the ring rail is on its downward path. The patent is assigned to R. H. Boulogny Company of Charlotte. Other patents awarded include: P. O. Gibbs, Greensboro, for a shuttle truing machines; S. J. Adams of Greenville, S. C., for a lease forming reed; and Arthur W. Hilton of Marion for a spring controlled feed pawl.

Technical Sales Survey

Logan Grupelli of the technical sales division of the National Oil Products Company of Harrison, N. J., is conducting a technical sales survey throughout the United States. Mr. Grupelli, who is sales promotion and advertising manager of the industrial sales department of the company, will visit textile and paper manufacturing centers.

Extensive Studies Conducted in Broad Cotton Variations

Washington, D. C.—Some characteristics of cotton varieties hold relatively stable under widely different environments. Others change, reports Dr. O. A. Pope, agronomist of the bureau of plant industry, United States department of agriculture, after one year of a three-year study to determine variations in varieties grown under widely different environments.

Sixteen cotton varieties, selected for their importance in different sections of the cotton belt, are being planted in eight plots for each variety at each of 14 experiment stations in ten of the leading cotton producing states. The varieties are located at random on the same block each year and are grown under as near perfect conditions as possible.

Stations co-operating with the bureau are Alabama, Georgia, Louisiana, Mississippi, North Carolina, Oklahoma, Tennessee, South Carolina, two stations in Arkansas, and three in Texas. The textile foundation also is assisting in certain phases of the work.

At least 64 different characteristics of the cotton plant and fiber are being studied during the three year test. These fall under the general classifications of growing conditions, gin data, fiber properties, and spinning utility.

Varieties selected for the experiment are Acala (Rogers), Arkansas 17, Cleveland (Wanamaker), Cook 912, Delta and Pine Land 11, Dixie Triumph 759, Farm Relief 2, half and half, Mexican Big Boll, Missdol 4, Qualla, Arkansas Rowden 2,088, Startex 619, Stoneville 5, Oklahoma, Triumph 44, and Cokers Wilds 5.

The first year of study indicates that characteristics such as staple length, lint per cent, weight of lint per 100 seed, and lint fineness do not change greatly as environment changes. But characteristics such as yield, time required for germination and to reach blooming stage, time of opening, and maturity of fiber are modified to a considerable extent by seasonal conditions present at the various locations.

Surprising variations cropped out at the end of the first year, particularly in comparing four lock and five lock bolls at the various stations. This has been considered a characteristic of variety rather than environment and significant varietal differences were found at all locations. Nevertheless it was found that environment conditions at various locations greatly modified the proportion of four and five lock bolls on all varieties. For instance, the average percentage of four lock bolls for all varieties from less than 51 to more than 78 per cent at the different locations. The Arkansas delta, and Greenville, Texas, stations report the highest—and Knoxville, Tenn., and Arkansas upland stations, the lowest—percentage of four lock bolls.

At the Statesville, N. C., station, in the Piedmont area, all 16 varieties were slower in germinating than at any of the other 13 stations, but in 50 to 55 days reached the bloom stage—the shortest period for any of the stations. Greenville, Texas, for instance, took 85 days to reach the bloom stage.

When you meet these jobs —

- ★ REMOVING DIFFICULT SPOTS from
PIECE GOODS, caused by water repellent preparations or wax emulsions.
- ★ SCOURING GREASY PIECE GOODS.
- ★ SCOURING RAYONS clean of oxidized mineral oils
- ★ PIECE GOODS RE-DYES
- ★ ALL JIG WORK SCOURING

—you'll thank us for developing **DEWAXIT**

These are not ordinary problems, nor is DEWAXIT an ordinary scouring adjunct. It is developed for difficult work. DEWAXIT, added to your regular scouring bath, quickly and thoroughly removes oils, fats, greases, water repellents and wax emulsions. Fine for rancid or oxidized oils and stains or oils of a greasy nature. Write for sample of DEWAXIT. Tell us your problem. Full details will be sent.

Onyx Oil & Chemical Co., Jersey City, N. J.

Specialists in Finishing Materials

Southern Repr., E. W. KLUMPH, Charlotte, N. C.
Midw. Repr., Maher Color & Chemical Co., Inc., Chicago

SELF-SEALED

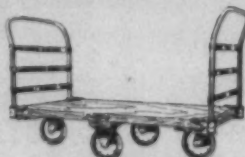


Designed with removable labyrinth felt seal entirely within confines of extra wide inner and outer rings to avoid injury, these "Greaseal" Precision Bearings, with large grease capacity, assure superior performance. Write for Catalog.

NORMA-HOFFMANN
PRECISION BEARINGS

NORMA-HOFFMANN BEARINGS CORP. - STAMFORD CONN. U.S.A.

ENGINEERING SALES COMPANY



Nutting

Trucks, Wheels, Casters

S. R. & V. G. Brookshire
District Representative

GATES Vulco Rope V-Drive
BARRETT Trucks, Elevators
OSBORN Tramrail Systems
KEWANEE Coal Conveyors
LYON Lockers, Shelving
STANDARD Conveyors

217 Builders' Bldg. CHARLOTTE, N. C. Phone 3-4232

Paul B. Eaton

PATENT LAWYER

1408 Johnston Bldg., Charlotte, N. C.
 514 Munsey Bldg., Washington, D. C.
 Former Member Examining Corps
 U. S. Patent Office

**Dacotah Cotton Mill
Operations Resumed**

Lexington, N. C.—Something of a record in textile circles is said to have been made here in the resumption of the Dacotah Cotton Mills, now going with a full shift of about 200 employes and planning to add a night shift during the week, after having started operations a short time ago under new management after standing idle for 18 months. John McD. Moore secretary and treasurer, is in charge of operations.

Stock was in process throughout the mill when it was closed and the mill is said to have been kept in excellent condition as evidenced by the quick start made. Loyalty of former employes is indicated by the manner in which they have responded to the reopening by returning to their old jobs. Many of them have been employed in other plants throughout this section.

Piedmont Mills Get Refund

Ricmond, Va.—The Piedmont Manufacturing Company is entitled to recover \$63,544 with interest totaling \$44,627 from the federal government for overpaid taxes for the years 1917, 1918 and 1920 resulting from errors made by the commissioner of internal revenue in assessments for taxation, the United States circuit court of appeals held in affirming judgment of the district court at Greenville, S. C.

The amount of the judgment was based on findings of the bureau of internal revenue which investigated the case. The government defended the suit for recovery of the overpayments on the grounds that the court was without jurisdiction to entertain the suit. The company sued for recovery of \$73,477 with interest.

Boyd & Goforth Given Contract

Boyd & Goforth, Inc., Charlotte contractors, have been awarded contract for a complete industrial and domestic water system for the Marshall Field Company at Spray, Leaks-ville, and Draper.

The system will have a 3,000,000 gallon industrial supply and a 1,000,000 gallon domestic supply. Work will begin this week.

Index To Advertisers

Where a — appears opposite a name it indicates that the advertisement does not appear in this issue.

	Page		Page
-A-		-K-	
Abbott Machine Co.	—	Keever Starch Co.	—
Akron Belting Co.	15	-L-	
Allis-Chalmers Mfg. Co.	—	Laurel Soap Mfg. Co., Inc.	—
American Blower Corp.	—	Link-Belt Co.	—
American Bobbin Co.	—	-M-	
American Cyanamid & Chemical Corp.	—	Maguire, John P. & Co.	—
American Moistening Co.	—	Marshall & Williams Mfg. Co.	—
American Paper Tube Co.	—	Marrow Machine Co., The	—
Armstrong Cork Products Co.	—	Murray Laboratory	—
Arnold, Hoffman & Co.	—	-N-	
Ashworth Bros.	11	National Aniline & Chemical Co., Inc.	—
-B-		National Oil Products Co.	—
Bahnsen Co.	—	National Ring Traveler Co.	15
Bally, Joshua L. & Co.	28	Nelsner Mills Co., Inc.	—
Bancroft Belting Co.	23	National Oil Products Co.	—
Barber-Colman Co.	—	N. Y. & N. J. Lubricant Co.	—
Bismark Hotel	—	Noone Wm. H. & Co.	—
Borne, Scrymser Co.	—	Norlander Machine Co.	—
Brookmire, Inc.	—	Norma-Hoffmann Bearings Corp.	25
Brown, David Co.	23	-O-	
Brown, D. P. & Co.	—	Old Dominion Box Co., Inc.	—
Bruce & Co., E. L.	—	Onyx Oil & Chemical Co.	—
-C-		-P-	
Campbell, John & Co.	9	Parks-Cramer Co.	—
Carolina Refractories Co.	29	Perkins, B. F. & Son, Inc.	—
Charlotte Chemical Laboratories, Inc.	—	Powers Regulator Co.	—
Charlotte Leather Belting Co.	21	Provident Life & Accident Ins. Co.	—
Ciba Co., Inc.	—	-R-	
Clark Publishing Co.	35	Rhoads, J. E. & Sons	—
Clinton Co.	14	R. L. Tool Co.	—
Crespi, Baker & Co.	29	Rice Dobby Chain Co.	22
Crompton & Knowles Loom Works	—	Roy, B. S. & Son Co.	—
Curran & Harry	28	-S-	
Cutler, Roger W.	—	Saco-Lowell Sops	—
-D-		Seydel Chemical Co.	20
Dary Ring Traveler Co.	15	Seydel-Woolley Co.	24
Daughtry Sheet Metal Co.	—	Sherwin-Williams Co.	29
Deering, Milliken & Co., Inc.	28	Signode Steel Strapping Co.	27
Denison Mfg. Co.	20	Sipp-Eastwood Corp.	—
DeWitt Hotels	—	Socony Vacuum Oil Co.	Insert
Dillard Paper Co.	24	Soluol Corp.	—
Dixon Lubricating Saddle Co.	10	Solvay Sales Corp.	—
Draper Corporation	Center Insert	Sonoco Products	Front Cover
Dronfield Bros.	22	Southern Ry.	—
Dunkel & Co., Paul R.	—	Southern Spindle & Flyer Co.	21
Dunning & Boschert Press Co.	24	Staley Sales Corp.	—
DuPont de Nemours, E. I. & Co.	—	Stanley Works	—
-E-		Steel Heddle Mfg. Co.	—
Eaton, Paul B.	26	Stein, Hall & Co.	—
Emmons Loom Harness Co.	—	Sterling Ring Traveler Co.	—
Engineering Sales Co.	25	Stevens, J. P. & Co., Inc.	28
Enka, American	—	Stewart Iron Works Co.	—
-F-		Stonhard Co.	20
Foster Machine Co.	—	-T-	
Benjamin Franklin Hotel	—	Terrell Machine Co.	Center Insert
Franklin Machine Co.	—	Texas Co., The	—
Franklin Process Co.	Center Insert	Textile Banking Co.	—
-G-		Textile Shop, The	—
Garland Mfg. Co.	28	-U-	
General Coal Co.	—	U. S. Bobbon & Shuttle Co.	—
General Dyestuff Corp.	Back Cover	U. S. Gutta Percha Paint Co.	—
General Electric Co.	—	U. S. Ring Traveler Co.	7
General Electric Vapor Lamp Co.	—	Universal Winding Co.	—
Gilmer Co., L. H.	—	-V-	
Goodyear Tire & Rubber Co.	2	Vanderbilt Hotel	—
Grasselli Chemical Co., The	—	Veeder-Root, Inc.	—
Graton & Knight Co.	—	Victor Ring Traveler Co.	—
Greenville Belting Co.	27	Viscose Co.	—
Gulf Refining Co.	—	Vogel, Joseph A. Co.	35
-H-		-W-	
H & B American Machine Co.	—	Wallerstein Co.	—
Hercules Powder Co.	—	Wellington, Sears Co.	—
Hermas Machine Co.	—	Whitfin Machine Works	—
Holbrook Rawhide Co.	—	Whitinsville Spinning Ring Co.	35
Houghton, E. F. & Co.	—	Williams, I. B. & Sons	—
Houghton Wool Co.	—	Windle & Co., J. H.	—
Howard Bros. Mfg. Co.	—	Wolf, Jacques & Co.	—
-J-		Wytheville Woolen Mills	24
Jackson Lumber Co.	—		
Jacobs, E. H. Mfg. Co., Inc.	—		
Johnson, Chas. B.	—		

Classified Department

POSITION WANTED—Good second-hand, section-man, spindle plumber and general overhauler in spinning and twisting cotton, long and short draft. Understands help and how to keep down cost. Age 27. Available on short notice. Address "27", care Textile Bulletin.

WANTED—Experienced Salesman to handle well known line of textile chemicals, sizings and finishing materials in Southern territory. Must be well acquainted with this territory and strictly reliable. Give references. Address "Sizings", care Textile Bulletin.

POSITION WANTED as Superintendent. Practical in whole mill; technical education, nine years on combed broadcloth, plain and fancy. Also experienced on carded broadcloth, print cloth and sheetings. Address "Superintendent," care Textile Bulletin.

WANTED—All spinners of cotton, wool or rayon having laps and middle steel rolls, to consult the writer of ad. M. L. Balick, Box 57, Ranlo Station, Gastonia, N. C.

FOR SALE at 25 cents per pound. 2 coils 1450 pounds New 1 3/4" Plymouth Transmission rope.

BERRYTON MILLS
Berryton, Ga.

PATENTS

Prompt, expert service. Send sketch or model for free opinion. Expert Washington associates.

DAVID P. DELLINGER
Special Attorney
Cherryville, N. C.

LOOM FIXERS WANTED

Wanted by Southern mill, loom fixers experienced on C & K silk or rayon looms. If interested give experience and reference.

Address "Southern Mill"
Care Textile Bulletin

SALESMAN WANTED

Have nice side line to offer salesman selling weave room supplies in Georgia, Alabama, Mississippi. State present and past connections. Application treated confidentially. Three reference names required. Address P. O. Box 64, New Brookland, S. C.

GREENVILLE BELTING CO. GREENVILLE, S. C.



Belting 2" for Looms, 3" for Spinning Frames and Cards, 4" and up for Counters and Motors, 20" and up for Main Drives, are all made from Center Stock—right in our factory in Greenville.

POSITION WANTED—Young man, 14 years experience, overseer combed and carded cotton and rayon fabrics. Good references. Address "Cloth Room," care Textile Bulletin.

WANTED—SCRAP IRON

In carload lots, F.O.B. cars, or our crew will load. Can use all grades, including heavy engines and boilers; pay spot cash. Also buy non-ferrous metals. Please get our offer before selling.

C. E. Luttrell & Co.
Box 1161 Greenville, S. C.
Telephone 1447

Discover What More Textile Shippers Are Learning Every Day:

SIGNODE PROTECTION



● Signode Tensional Steel Strapping is used in reinforcing practically every type of Textile shipments from wooden box to fibre carton. The strong, tempered flat bands grip the unit and hold it in spite of rough handling, thus avoiding damage and assuring satisfied customers.

SIGNODE STEEL STRAPPING COMPANY
2637 N. WESTERN AVENUE, CHICAGO, ILL.

373 Furman St., Brooklyn, N. Y. 456 Bryant St., San Francisco, Cal. Grant Bldg., Pittsburgh, Pa.

Send for "Signode Bulletin on Textile Shipments" which describes how leading textile mills use Signode Tensional Steel Strapping.

A.A.R. Designates April—Perfect Shipping Month

Check Your Shipments Now with Signode's Cooperation.

References exchanged by Salesman wanting exclusive representation Pacific Coast or Mississippi Valley Territory. Acquainted among the Manufacturer, Jobber, Large Chain and Department Store trade. Production must be sufficient to guarantee traveling expenses against shipments, on commission basis. Address "Salesman," care Textile Bulletin.

Textile Pact to Expire July 31

The Philippine textile market drew the attention recently of American exporters and Philippine President Manuel Quezon.

Claudius T. Murchison, president of the Cotton Textile Institute, was head of a delegation which he said arranged to call on Quezon and discuss cotton goods, along with "trade in general."

A two-year Japanese-American "gentlemen's agreement" restricting Japanese exports to the islands to 45,000,000 square meters annually expires July 31. Murchison declined to say whether he would urge its extension.

The agreement, reached at a time when Japanese textiles threatened to capture entirely a \$20,000,000 annual market which once was the largest single offshore market for American textiles, was devised to divide it approximately equally.

SELLING AGENTS for SOUTHERN COTTON GOODS

Deering Milliken & Co.
Incorporated

79-83 Leonard St.

New York

330 West Adams Street. Chicago

CURRAN & BARRY

320 Broadway
New York, N. Y.

Domestic Export
MERCHANDISING

Joshua L. Baily & Co.

10-12 Thomas St. New York



Cotton Goods Markets

New York, N. Y.—Trading in the gray cloth markets was desultory and these was a continuance of the firm price front on the part of mills. Second hands did not enter the market with any offerings, and although some goods were known to be available for re-sale, it was generally believed offerings were being held down by reason of the fact that buyers are not in a mood to cover further.

There was continued reference to the backing up of goods in the hands of distributors, who still are not getting replacement prices. It was said that many wholesalers are finding goods coming in faster than they are moving them, and while the stock accumulations have not reached proportions where sacrifice prices are necessary, there is no immediate possibility of moving up the finished goods prices. This condition is causing a good deal of worry because of the fact that it is recognized that whenever the point is reached where wholesalers and retailers must get replacements based upon present prices, they are likely to meet resistance. The fear is that this will reflect eventually in pressure for lower gray cloth prices. Since costs have advanced very sharply in recent months, current prices which once showed very neat profits are not particularly profitable to mills and concessions would mean losses.

The carded broadcloth situation showed no change and prices were not changed. There was inquiry only on small quantities on which buyers made no effort to shade prices.

In the sheeting section prices continued very strong and some numbers had gained as much as $\frac{1}{4}$ c on the week because of the light supply. Among sales were 36-inch 2.85s at 11c for nearby delivery, with $10\frac{3}{4}$ c offered on later shipments. The 40-inch 5-yard were reported to have sold as high as $8\frac{1}{4}$ c for nearby shipment, with later contracts quoted at 8c.

Print cloths, 27-in., 64x60s	6 $\frac{1}{8}$
Print cloths, 28-in., 64x60s	6 $\frac{1}{4}$
Gray Goods, 38 $\frac{1}{2}$ -in., 64x60	8
Gray goods, 39-in., 80x80s	10 $\frac{1}{4}$
Tickings, 8-ounce	18
Denims	16
Brown sheetings, standard	12
Brown sheetings, 4-yard, 56x60	9 $\frac{1}{2}$
Brown sheetings, 3-yard	11 $\frac{1}{4}$
Dress gingham	16
Staple gingham	12

J. P. STEVENS & CO. Inc.

Selling Agents

40-46 Leonard St., New York

Cotton Yarn Markets

Philadelphia, Pa.—The cotton yarn market finds demand slack. Prices held up well, but the attitude of waiting to see the result of developments in the market is general with the trade. Buyers who have enough yarn to tide over the immediate period are often checking to see whether they can cover more advantageously than they could during the recent active trading movements. However, there has been little indication that there is any weakness among spinners. Where lower quotations have come through they are usually from resellers who were supplied with surplus poundage.

A spotty situation accounted for occasional buyers covering on their immediate and later needs. Certain descriptions, such as plush yarns, were found to be too heavily sold ahead through half the summer to offer present buyers much chance of arranging nearby deliveries. August is generally the early date for any quantity order on this yarn.

There have been some reports of price cutting by firms who claim lower inventories. This has not been of any great import though since they are scarce and their stocks are small. Some manufacturers claim they have been offered 20s two-ply 1 cent under recent asking prices. Combed qualities are steady with some large spinners sold ahead until September.

Leading sources and their market representatives are standing pat for the asking prices they began quoting at the first of this month. These concerns are not seeking additional business at present, it is explained, and are not anxious to quote on the later deliveries. In some quarters, while it is said that the yarn distributors have a definite interest in seeing to it that prices do not become excessive, the comment is offered that the leading sale yarn spinners thus far have handled the situation with sound judgment. From this, it is said, all concerned have benefited and nothing has been done to encourage speculation in cotton yarn.

Southern Single Skeins		Two-Ply Plush Grade	
8s	30 1/2	12s	34
10s	31	16s	36
12s	31 1/2	20s	38
14s	32	30s	44
20s	33 1/2		
26s	36		
30s	38		
36s	42		
40s	45		
Southern Single Warps		Duck Yarns, 3, 4, and 5-Ply	
10s	31	8s	31 1/2
12s	31 1/2	10s	32
14s	32	12s	32 1/2
16s	32 1/2	14s	34
20s	33 1/2	16s	35
26s	36	20s	38
30s	38		
40s	45		
Southern Two-Ply Chain Warps		Carpet Yarns	
8s	31 1/2	Tinged carpet, 8s,	
10s	32	3 and 4-ply	30
12s	32 1/2	Colored stripe, 8s,	
16s	35 1/2	3 and 4-ply	29
20s	38	White carpets, 8s,	
24s	40	3 and 4-ply	31 1/2
26s	41		
30s	43		
36s	45		
40s	48		
Southern Two-Ply Skeins		Part Waste Insulated Yarns	
8s	31 1/2	8s, 1-ply	27
10s	32	8s, 2, 3, and 4-ply	28 1/2
12s	32 1/2	10s 2, 3, and 4-ply	30 1/2
14s	34	12s, 2-ply	31
16s	36	16s, 2-ply	34
20s	38	30s, 2-ply	41
24s	39 1/2		
26s	40 1/2		
30s	43		
36s	45		
40s	48		
		Southern Frame Cones	
		8s	30
		10s	30 1/2
		12s	31
		14s	31 1/2
		16s	32
		20s	33
		22s	34
		24s	35
		26s	36
		28s	37
		30s	38
		36s	41

CRESPI, BAKER & CO.

Cotton Merchants

L. D. PHONE 997

Charlotte, N. C.

Eastern and Western Growth Cotton



FOR MILL WALLS SHERWIN-WILLIAMS



SAVE-LITE

THE PLANT CONDITIONING PAINT

BOILER FURNACES LAST TWICE AS LONG

Boiler furnaces lined with CARECO last 2 to 4 times longer than those lined with fire brick. Write for quotation.

CAROLINA REFRACTORIES CO
HARTSVILLE, S. C.



Repair
or Line
with
CARECO



A PLASTIC LINING
USED IN PLACE OF
FIRE BRICK



Visiting The Mills

By Mrs. Ethel Thomas Dabbs (Aunt Becky)

Mooresville, N. C.—Mooresville Cotton Mill

Mill Enjoying Good Business and Operatives Happy

"Gee whiz, what's going on?" was my first thought on arriving here. Hammers were ringing, and the scent of paint permeated the atmosphere. The office is being remodeled and enlarged to take care of necessary details in increased business. Additions have been added almost entirely around the building. The big office force did not seem to mind temporary inconveniences and were all as courteous and smiling as ever, though Mr. Johnston, deceased, is greatly missed after long years of service.

It was good to find old friends from Georgia here—Mr. and Mrs. J. L. Brannon. Little Maurine and Don think that "Aunt Becky" is positively their own aunt, and it goes without saying that it was a joy to stick my feet under the Brannon well supplied dinner table.

In and Around the Mill

Mooresville Cotton Mills are among the nicest in the State, and here is hoping that the present prosperity will be permanent and that the 2,300 employees will enjoy the continued blessings of plenty of work and regular wages, which amounts to approximately \$32,000 weekly.

Nice electrically cooled drinking fountains are in every department and the mill is well ventilated.

I learned from Messrs. Cooke and Brannon, in the spinning department, that they had 125 colors and styles of filling in No. 2, 57 in No. 3, and 37 colors of warp in No. 3.

Cisalfa (I believe that is the name) is a new fine "wool" manufactured in Italy, from buttermilk, skim milk, vinegar and other acids, and is used here. Also rabbit hair, Japanese rayon, celanese, acetate, Persian wool, etc., are spun into yarns for various goods manufactured here.

Officials

John F. Matheson is president and manager; C. F. Clark, asst. secretary and treasurer; C. W. Gunter, assistant manager; and W. F. Summers, superintendent.

Mr. Brannon, overseer spinning, is an authority on novelty yarns, and—as one sometimes remarks—is "crazy about his work." Some of the prettiest, nobbiest and unusual yarns are made here. Work is running beautifully and everything is nice and clean.

Robert C. Cooke is superintendent of carding and spinning, and has several overseers in the various carding

and spinning departments—all working together in perfect harmony as overseers should.

We will just give names of subscribers as they were written up: C. F. LaFoy, general second hand in first shift carding; E. B. Fowler, head sample man; G. E. Hill, second hand in No. 3 spinning; Carl V. Westmoreland, color man No. 3 card room; W. C. Rash, card grinder; J. H. LaFoy, picker section; Earl Moore, head color man; O. B. Hager, section No. 3 spinning; J. R. Mills, assistant sample man; Curtis Beck, overhauler No. 3 spinning; G. S. Garrett, section No. 3 spinning; C. H. Johnson, overseer carding and spinning No. 2; John Spurgeon Morgan, card grinder No. 2; Paul Gibson, section man, spinning and twisting No. 2; J. K. Long, overseer spinning, second shift No. 3; C. F. Marlowe, section second shift spinning No. 3; W. R. Lee, speeder fixer; C. M. Alsobrooks, section Spinning No. 3; O. J. Mundy, section spinning No. 3; R. R. Stovall, overseer slashing; F. E. Tarrh, beam dyer; J. H. Chamberlain, machinist.

No. 4 Carding and Spinning

J. M. Proctor, overseer carding and spinning; R. G. Fields, overhauler; G. S. Jarrett, section man spinning; R. B. Hare, section man carding; G. G. Summers, section spinning.

One second shift No. 4, J. C. Wilkie is second hand in carding and spinning; Marvin Deal, section man in carding; and R. D. Redding, section man in spinning.

A. R. Kink is overseer designing, and the lovely patterns in various goods made here is proof of his artistic ability.

The Weave Room

The many weights, widths, styles and lovely colors of goods made here give one a real thrill.

M. M. Tuttle, general overseer weaving, is a graduate of State College; C. L. Sloop, overseer weaving, is one of the genial overseers and keeps his subscription paid far in advance; W. W. Evans, supply clerk, is a real Biblical authority. Mr. Evans has read the Bible through more than fifty times the past forty years, and often goes out to make Sunday School talks.

R. W. Little, overseer cloth room, has a nice department with lots of pretty girls. J. E. Neeley is shipping clerk; R. L. Potts is one of the cloth room force.

E. E. Edmiston is master mechanic and one of the best. G. C. Starnes is assistant overseer in the towel depart-

ment; P. B. McNeeley is superintendent of finishing; E. E. Fisher and H. G. Newton are up-to-date loom fixers; Carl Small is one of the progressive young men. T. M. Hill is overseer tying-in and drawing-in; W. G. Ware is superintendent of dyeing; and R. H. Baker, Jr., is chemist.

Glass Fibers*

(Continued from Page 9)

the strand, but on the aggregate of the individual filaments themselves, the strength is 247,000 lb. per sq. in.—a good check.

Just as in other textile operations, a sizing is used until fabrication is complete, and then it is washed off, leaving the pure glass, incombustible, impervious to chemical attack, and incapable of absorbing moisture.

But it is not necessary to use these continuous filaments exclusively for textile purposes. Staple length material is also widely used in our textile operations, some of the finest cloths being made from staple length yarn.

Electrical Insulation

The strengths of Fiberglas textiles are much greater than those of competing products. For instance, in the case of tapes for electrical insulation, high-temperature purposes, Fiberglas tapes have a tensile strength of 250 lb., whereas other insulations average 50 lb. for a tape of the same dimensions. This is important in the winding of motors, and similar usages. Our yarns compare very favorably in strength with cotton and wool yarns of similar size.

In addition to tapes, Fiberglas can be used also in the form of very fine yarn to wind individual small wires. Either of these forms has a very high dielectric strength, being on the order of 125 v. per mil on unimpregnated tapes. For impregnated tapes the average is 1200 v. per mil. It requires but half the thickness of glass tape to supply the same insulation that is given by other tapes—for instance, a 0.015-in. glass tape has a higher dielectric strength than similar high temperature insulations 0.025 in. thick. When an impregnation treatment is used, the same holds true—one-half the thickness of glass is required. The tape is readily handled, presenting no problems in installation.

The yarn form is used in insulating wires and cables and is wound on the wires by machines which have been used for this purpose for years. If an impregnation treatment is desired, it is given either during or after winding the yarn on, just as is done with any other textile material.

Two great advantages of glass are readily apparent; first, it is fireproof and is unaffected by high temperatures; second, it is permanent. It is not affected by moisture, will not rot, decay or age. The temperature at which a machine, such as a motor, can be run with glass insulation is limited only by the impregnating material used in the glass.

Filtering Media

The chemical stability of glass has been mentioned. It plays an important part in another application of Fiberglas—as a woven filtering media. The textile yarns mentioned previously are woven into a tight cloth on existing textile machinery, and the cloth is placed in operation under severe filtering conditions. Tests have been run on

samples under acid conditions where the life of wool filter cloth averages 10 days. Fiberglas filter cloth operate satisfactorily for 40 days. Of course, it is readily applied to neutral filtrations. As yet it is not being made for use under alkaline conditions.

It is in filtration that the surface condition of the glass fiber shows its importance. Where an ordinary glass bottle has 90 sq. in. of exposed surface, a fine fiber, weighing as much as a bottle, has 8,740,000 sq. in. exposed. If it were not for the stable characteristics of glass, any chemical attack would be ruinously fast on such an area.

However, the advantages of glass as a filtering media are not limited to its chemical stability and heat-resistance alone. A woven glass cloth requires only one-sixth the pressure necessary to obtain the same filtration production on a similar cloth of cotton. In addition, glass is sufficiently resilient to prevent packing of the fibers under high pressures and filtration efficiency is not changed through long life.

It is expected that, in the near future, Fiberglas fabrics will find widespread application outside of the two fields specifically mentioned. Glass, inherently, has the very valuable characteristic of non-inflammability, which is found in all minerals, or inorganic, materials. Theater drapes, hotel tapestries, awnings, and a multitude of other applications are foreseen for glass textiles. Colors can be readily produced, although they are not being made in production as yet, since it is not serving a market where colors are essential.

Percentage of Japanese Workers

Textiles are emphasized as one of the world's most important industries in a report prepared by the International Labor office for submission to a conference of textile producing nations at Washington, D. C.

The report estimates the total number of persons employed in the textile industry at 14,000,000, or between three and four per cent of the world total of persons in gainful occupation.

Four countries, it says, have slightly more than 1,000,000 employees each. They are: the United States, the United Kingdom (Great Britain and northern Ireland), Germany, and Japan.

France and the United States of Soviet Russia have about 900,000 each, India and Italy about 700,000 each. More than three-quarters of the world's textile workers are thus concentrated in these eight countries.

The proportion of textile workers to all workers in industry, though it varies from country to country, is much higher than the proportion cited above. In the United States it is about six per cent; in Germany and the United States Soviet Russia, eight per cent; in France 11 per cent; and in the United Kingdom 13 per cent.

In Japan it is nearly 50 per cent.

In regard to the value of the output of the textile industry the report points out that in 1933 textile mill products in the United States accounted for about nine per cent of the net value of manufactures; in the United States Soviet Russia for about 13 per cent; in the United Kingdom about 14 per cent in 1930; and in Japan about 26 per cent in 1933.

Southern Sources of Supply

For Equipment, Parts, Material, Service

Following are the addresses of Southern plants, warehouses, offices, and representatives of manufacturers of textile equipment and supplies who advertise regularly in TEXTILE BULLETIN. We realize that operating executives are frequently in urgent need of information service, equipment, parts and materials, and believe this guide will prove of real value to our subscribers.

ABBOTT MACHINE CO., Wilton, N. H. Sou. Agt., L. S. Ligon, Greenville, S. C.

ACME STEEL CO., THE, 2840 Archer Ave., Chicago, Ill. Sou. Sales Offices: Georgia—Atlanta, Acme Steel Co. of Ga., Inc., 603 Stewart Ave.; P. H. Webb, Mgr., 1281 Oxford Rd., N.E.; W. H. Duane, 1196 Virginia Ave., N.E. North Carolina—Charlotte, F. G. German, 1617 Beverly Drive. South Carolina—Greenville, G. R. Easley, 107 Manly St. Tennessee—Signal Mountain, W. G. Polley, 802 James Blvd. Florida—Orlando, R. N. Sillars, 605 E. Gore Ave.

AKRON BELTING CO., Akron, O. Sou. Branches, 209 Johnston Bldg., Charlotte, N. C.; 905 Woodside Bldg., Greenville, S. C.; 20 Adams Ave., Memphis, Tenn.

ALLIS-CHALMERS MFG. CO., Milwaukee, Wis. Sou. Sales Offices: Atlanta, Ga., Healey Bldg., Berrien Moore, Mgr.; Baltimore, Md., Lexington Bldg., A. T. Jacobson, Mgr.; Birmingham, Ala., Webb Crawford Bldg., John J. Greagan, Mgr.; Charlotte, N. C., Johnston Bldg., William Parker, Mgr.; Chattanooga, Tenn., Tennessee Electric Power Bldg., D. S. Kerr, Mgr.; Cincinnati, O., First National Bank Bldg., W. G. May, Mgr.; Dallas, Tex., Santa Fe Bldg., E. W. Burbank, Mgr.; Houston, Tex., Shell Bldg., K. P. Ribble, Mgr.; New Orleans, La., Canal Bank Bldg., F. W. Stevens, Mgr.; Richmond, Va., Electric Bldg., C. L. Crosby, Mgr.; St. Louis, Mo., Railway Exchange Bldg., C. L. Orth, Mgr.; San Antonio, Tex., Frost National Bank Bldg., Earl R. Hurry, Mgr.; Tampa, Fla., 415 Hampton St., H. C. Flanagan, Mgr.; Tulsa, Okla., 18 North Guthrie St., D. M. McCargar, Mgr.; Washington, D. C., Southern Bldg., H. C. Hood, Mgr.

AMERICAN BLOWER CORP., Detroit, Mich. Sou. Offices: Court Square Bldg., Baltimore, Md.; 1211 Commercial Bank Bldg., Charlotte, N. C.; Rooms 716-19, 101 Marietta St. Bldg., Atlanta, Ga.; 846 Baronne St., New Orleans, La.; 1005-6 American Bldg., Cincinnati, Ohio; 619 Mercantile Bldg., Dallas, Tex.; 201 Petroleum Bldg., 1314 Texas Ave., Houston, Tex.; 310 Mutual Bldg., Kansas City, Mo.; 620 S. 5th St., Architects & Bldrs. Exhibit Bldg., Louisville, Ky.; 1433 Oliver Bldg., Pittsburgh, Pa.; 7 North 6th St., Richmond, Va.

AMERICAN CYANAMID & CHEMICAL CORP., 30 Rockefeller Plaza, New York City. Sou. Office and Warehouse, 301 E. 7th St., Charlotte, N. C.; Paul Haddock, Sou. Mgr.

AMERICAN ENKA CORP., 271 Church St., New York City. Sou. Rep., R. J. Mebane, Asheville, N. C.

AMERICAN MOISTENING CO., Providence, R. I. Southern plant, Charlotte, N. C.

AMERICAN PAPER TUBE CO., Woonsocket, R. I. Sou. Rep., Ernest F. Culbreth, P. O. Box 11, Charlotte, N. C.

ARMSTRONG CORK PRODUCTS CO. (Textile Division), Lancaster, Pa. Sou. Office, 33 Norwood Place, Greenville, S. C. T. L. Hill.

ARNOLD, HOFFMAN & CO., Inc., Providence, R. I. Frank W. Johnson, Sou. Mgr., Box 1268, Charlotte, N. C. Sou. Reps., Robert E. Buck, Box 304, Greenville, S. C.; Harold T. Buck, 1615 12th St., Columbus, Ga.; W. Chester Cobb, Hotel Russell Erskine, Huntsville, Ala.

ASHWORTH BROS., Inc., Charlotte, N. C. Sou. Offices, 44-A Norwood Place, Greenville, S. C.; 215 Central Ave., S.W., Atlanta, Ga.; Texas Rep., Textile Supply Co., Dallas, Tex.

ATLANTA HARNESS & REED MFG. CO., Atlanta, Ga. G. P. Carmichael, Atlanta Office; Alabama, Georgia and Mississippi Rep., Barney R. Cole, Atlanta Office; North Carolina and South Carolina Rep., Dave Jones, Greenville, S. C.

BAHNSON CO., THE, Winston-Salem, N. C. North and South Carolina Rep., S. C. Stimson, Winston-Salem, N. C. Sou. Rep., I. L. Brown, 886 Drewery St., N.E., Atlanta, Ga. Northern Rep., F. S. Frambach, 703 Embree Crescent, Westfield, N. J. Western Rep., D. D. Smith, 906 W. Lovell St., Kalamazoo, Mich.

BANCROFT BELTING CO., Boston, Mass. Sou. Rep., Ernest F. Culbreth, P. O. Box 11, Charlotte, N. C.

BARBER-COLMAN CO., Rockford, Ill. Sou. Office, 31 W. McBee Ave., Greenville, S. C.; J. H. Spencer, Mgr.

CHARLES BOND CO., 617 Arch St., Philadelphia, Pa. Sou. Reps., Harold C. Smith, Greenville, S. C.; Harold C. Smith, Jr., Greenville, S. C.; John C. Turner, P. O. Box 1344, Atlanta, Ga.

BORNE, SCRYMSEY CO., 17 Battery Place, New York City. Sou. Mgr., H. L. Sleever, P. O. Box 1169, Charlotte, N. C. Sales Reps., W. B. Uhler, 608 Palmetto St., Spartanburg, S. C.; R. C. Young, 1216 Kenilworth Ave., Charlotte, N. C.; John Ferguson, 303 Hill St., LaGrange, Ga.

BROWN CO., DAVID, Lawrence, Mass. Sou. Reps., Ralph Gossett, Woodside Bldg., Greenville, S. C.; William J. Moore, Woodside Bldg., Greenville, S. C.; Belton C. Plowden, Griffin, Ga.; Gastonia Mill Supply Co., Gastonia, N. C.; Russell A. Singleton, Dallas, Tex.; S. Frank Jones, 209 Johnston Bldg., Charlotte, N. C.

BROWN & CO., D. P., Philadelphia, Pa. Sou. Rep., N. W. Pyle, Box 884, Charlotte, N. C.

CAMPBELL & CO., JOHN, 75 Hudson St., New York City. Sou. Reps., M. L. Kirby, P. O. Box 432, West Point, Ga.; Mike A. Stough, P. O. Box 701, Charlotte, N. C.; A. Max Browning, Hillsboro, N. C.

CAROLINA DRILLING & EQUIPMENT CO., Sanford, N. C.

CAROLINA REFRACTORIES CO., Hartsville, S. C.

CHARLOTTE CHEMICAL LABORATORIES, Inc., Charlotte, N. C.

CHARLOTTE LEATHER BELTING CO., Charlotte, N. C.

CIBA CO., Inc., Greenwich and Morton Sta., New York City. Sou. Offices and Warehouse, Charlotte, N. C.

CLINTON CO., Clinton, Iowa. Sou. Agt., Luther Knowles, Jr., Box 127, Tel. 2-2486 Charlotte, N. C. Sou. Reps., Grady Gilbert, Box 127, Charlotte; Clinton Sales Co., Inc., Byrd Miller, 2 Morgan Bldg., Greenville, S. C.; Lee Gilbert, Box 481, Tel. 2913, Spartanburg, S. C.; A. C. Boyd, 1071 Bellevue Drive, N.E., Tel. Hemlock 7055, Atlanta, Ga. Stocks carried at Carolina Transfer & Storage Co., Charlotte; Consolidated Brokerage Co., Greenville, S. C. Atlanta Service Warehouse, Atlanta.

COMMERCIAL FACTORS CORP., 2 Park Ave., New York City. Sou. Rep., T. Holt Haywood, Reynolds Bldg., Winston-Salem, N. C.

CORN PRODUCTS REFINING CO., 17 Battery Place, New York City. Corn Products Sales Co., Greenville, S. C. John R. White, Mgr.; Corn Products Sales Co., Montgomery Bldg., Spartanburg, S. C.; J. Canty Alexander, Asst. Sou. Mgr.; Corn Products Sales Co. (Mill and Paper Starch Div.), Hurt Bldg., Atlanta, Ga.; C. G. Stover, Mgr.; Corn Products Sales Co., 824-25 N. C. Bank Bldg., Greensboro, N. C.; W. R. Joyner, Mgr.; Corn Products Sales Co., Comer Bldg., Birmingham, Ala.; L. H. Kelley, Mgr. Stocks carried at convenient points.

CRESPI, BAKER & CO., 411½ S. Tryon St., Charlotte, N. C.

CROMPTON & KNOWLES LOOM WORKS, Worcester, Mass. Sou. Plant, Charlotte, N. C.

CUTLER, ROGER W., 141 Milk St., Boston, Mass. Sou. Office, Woodside Bldg., Greenville, S. C. Sou. Agents: B. L. Stewart Roller Shop, Laurinburg, N. C.; Dixie Roller Shop, Rockingham, N. C.; A. J. Whittemore & Sons, Burlington, N. C.; The Georgia Roller Covering Co., Griffin, Ga.; Textile Roll Covering Works, LaGrange, Ga.; East Point Roller Cov. Co., East Point, Ga.; Dixie Roll & Cot Co., Macon, Ga.; Morrow Roller Shop, Albemarle, N. C.; Peerless Roll Covering Co., Chattanooga, Tenn.; Textile Roll & Cot Co., Dallas, Tex.; Greenville Textile Supply Co., Greenville, S. C.; Anniston Roll Covering Co., Anniston, Ala.

DARY RING TRAVELER CO., Taunton, Mass. Sou. Rep., John E. Humphries, P. O. Box 843, Greenville, S. C.; Chas. L. Ashley, P. O. Box 720, Atlanta, Ga.

DAUGHTRY SHEET METAL CO., Charlotte, N. C.

DENISON MFG. CO., THE, 145 Lyman St., Asheville, N. C. Sou. Rep., L. B. Denison, Genl. Mgr.

DILLARD PAPER CO., Greensboro, N. C., Greenville, S. C., Charlotte, N. C. Sou. Reps., E. B. Spencer, Box 1267, Charlotte, N. C.

DRAPER CORPORATION, Hopedale, Mass. Sou. Rep., E. N. Darrin, Vice-Pres.; Sou. Offices and Warehouses, 242 Forsyth St., S.W., Atlanta, Ga.; W. M. Mitchell; Spartanburg, S. C., Clare H. Draper, Jr.

DUNKEL CO., PAUL A., 82 Wall St., New York City.

DU PONT DE NEMOURS & CO., Inc., E. I., Dyestuffs Div., Wilmington, Del. John L. Dabbs, Mgr.; D. C. Newman, Asst. Mgr.; E. P. Davidson, Asst. Mgr.—Technical. Sou. Warehouses, 302 W. First St., Charlotte, N. C. Reps., L. E. Green, H. B. Constable, W. R. Ivey, Charlotte Office; J. D. Sandridge, W. M. Hunt, 1031 Jefferson Standard Bldg., Greensboro, N. C.; B. R. Dabbs, John L. Dabbs, Jr., 715 Providence Bldg., Chattanooga, Tenn.; R. D. Sloan, Amanda Apt., Greenville, S. C.; J. M. Howard, 135 S. Spring St., Concord, N. C.; W. F. Crayton, Dimon Court Apt., Columbus, Ga.; J. A. Franklin, Augusta, Ga.; Tom Taylor, Newnan, Ga.

DU PONT DE NEMOURS & CO., Inc., E. I., The R. & H. Chemicals Dept., Wilmington, Del. R. M. Levy, Dist. Sales Mgr., 302 W. First St., Charlotte, N. C.

EATON, PAUL B., 213 Johnston Bldg., Charlotte, N. C.

EMMONS LOOM HARNESS CO., Lawrence, Mass. Sou. Reps., George F. Bahan, P. O. Box 581, Charlotte, N. C.; Herbert Booth, Claridge Manor Apt., Birmingham, Ala.

ENGINEERING SALES CO., 217 Builders' Bldg., Charlotte, N. C.; S. R. and V. G. Brookshire.

FAFNIR BEARING CO., New Britain, Conn. Sou. Reps., Stanley D. Berg, No. 321 N. Caswell Road, Charlotte, N. C.; A. G. Laughridge, No. 248 Spring St., N.W., Atlanta, Ga.

FOSTER MACHINE CO., Westfield, Mass. Sou. Reps., R. W. Ensign, Charlotte, N. C.

FRANKLIN MACHINE CO., 44 Cross St., Providence, R. I.

FRANKLIN PROCESS CO., Providence, R. I. Sou. Plants, Greenville, S. C., and Chattanooga, Tenn.

GENERAL COAL COMPANY, 1215 Johnston Bldg., Charlotte, N. C. C. L. Rowe, Southern Sales Manager; S. F. Hutchinson, Jr., Asst. Southern Sales Manager; Reps., J. W. Lassiter, F. W. Reagan, E. H. Chapman, Charlotte, N. C.; J. C. Borden, Grace American Bldg., Richmond, Va.; D. H. R. Wigg, Wainwright Bldg., Norfolk, Va.; W. A. Counts, Law & Commerce Bldg., Bluefield, W. Va.; H. C. Moshell, Peoples Bank Bldg., Charleston, S. C.; G. P. W. Black, Greenville, S. C.; H. G.

GENERAL DYESTUFF CORP., 250 Fifth Ave., New York City. Sou. Office and Warehouse, 1161 S. Blvd., Charlotte, N. C. B. A. Stittgen, Mgr.

GENERAL ELECTRIC CO., Schenectady, N. Y. Sou. Sales Offices and Warehouses. Atlanta, Ga. E. H. Ginn, Dist. Mgr.; Charleston, W. Va., W. L. Alston, Mgr.; Charlotte, N. C., E. F. Coles, Mgr.; Dallas, Tex., L. T. Blaisdell, Dist. Mgr.; Houston, Tex., E. M. Wise, W. O'Hara, Mgr.; Oklahoma City, Okla., F. D. Hathway, E. F. Dunlap, Mgrs.; Sou. Sales Offices. Birmingham, Ala., R. T. Brooks, Mgr.; Chattanooga, Tenn., W. O. McKinney, Mgr.; Ft. Worth, Tex., A. H. Keen, Mgr.; Knoxville, Tenn., A. B. Cox, Mgr.; Louisville, Ky., E. B. Myrick, Mgr.; Memphis, Tenn., G. O. McFarlane, Mgr.; Nashville, Tenn., J. H. Barksdale, Mgr.; New Orleans, La., B. Willard, Mgr.; Richmond, Va., J. W. Hicklin, Mgr.; San Antonio, Tex., I. A. Uhr, Mgr.; Sou. Service Shops. Atlanta, Ga.; W. J. Selbert, Mgr.; Dallas, Tex., W. F. Kaston, Mgr.; Houston, Tex., F. C. Bunker, Mgr.

GENERAL ELECTRIC VAPOR LAMP CO., Hoboken, N. J. Sou. Reps., Frank E. Keener, 187 Spring St., N.W., Atlanta, Ga.; C. N. Knapp, Commercial Bank Bldg., Charlotte, N. C.

GILMER CO., L. H. Tacony, Philadelphia, Pa. Sou. Factory Rep., William W. Conrad, Greenwood, S. C. Sou. Mill Supply Distributors: Alabama—Owens-Richards Co., Inc., Birmingham; Southern Bearing & Parts Co., Birmingham; Selma Foundry & Machine Co., Selma, Florida—Llewellyn Machinery Corp., Miami; Harry P. Leue, Inc., Orlando; Johnston Engineering Corp., St. Petersburg; Southern Pump & Supply Co., Tampa, Georgia—Fulton Supply Co., Atlanta; Corbin Supply Co., Macon; Mill & Ship Supply Co., Savannah (formerly John D. Robinson Co. Mississippi—Soule Steam Feed Works, Meridian, North Carolina—McLeod Leather & Belting Co., Greensboro; Odell Mill Supply Co., Greensboro, South Carolina—Greenville Textile Supply Co., Greenville, Tennessee—Rogers-Bailey Hardware Co., Chattanooga; Browning Belting Co., Knoxville; J. E. Dilworth Co., Memphis; Nashville Machine & Supply Co., Nashville, Virginia—Todd Co., Inc., Norfolk; Smith-Courtney Co., Richmond; Johnston Electric Co., Staunton, West Virginia—Central Electric Repair Co., Fairmont.

GOODYEAR TIRE & RUBBER CO., Inc., Akron, O. Sou. Reps.: W. C. Killick, 209-11 East 7th St., Charlotte, N. C.; W. Reynolds Barker, 141 No. Myrtle Ave., Jacksonville, Fla.; T. F. Stringer, 500-6 No. Carrollton Ave., New Orleans, La.; W. R. Burtie, 3rd & Guthrie, Louisville, Ky.; R. G. Abbott, Allen & Broad Sts., Richmond, Va.; R. B. Warren, 214 Spring St. NW., Atlanta, Ga.; J. L. Sinclair, 700 South 21st St., Birmingham, Ala.

GRASSELLI CHEMICAL CO., Cleveland, O. Sou. Office and Warehouse, 302 W. First St., Charlotte, N. C.

GRATON & KNIGHT CO., Worcester, Mass. Sales Reps. R. W. Davis, Graton & Knight Co., 313 Vine St., Philadelphia, Pa.; O. D. Landis, 1709 Springdale Ave., Charlotte, N. C.; P. T. Pinckney, Jr., 2360 Forrest Ave., Apt. 3, Memphis, Tenn.; H. L. Cook, Graton & Knight Co., 2615 Commerce St., Dallas, Tex. Jobbers: Young & Vann Supply Co., Birmingham, Ala.; McGowan-Lyons Bldg. & Supply Co., Mobile, Ala.; C. C. Anderson, 301 Woodside Bldg., Annex, Greenville, S. C.; Cameron & Barkley Co., Charleston, S. C.; Cameron & Barkley Co., Jacksonville, Fla.; Cameron & Barkley Co., Miami, Fla.; Cameron & Barkley Co., Tampa, Fla.; Smith-Courtney Co., Richmond, Va.; Taylor-Parker, Inc., Norfolk, Va.; Battey Machinery Co., Rome, Ga.; Columbus Iron Works, Columbus, Ga.; Fulton Supply Co., Atlanta, Ga.; Dallas Belting Co., Dallas, Tex.; Textile Supply Co., Dallas, Tex.; Textile Mill Supply Co., Charlotte, N. C.; Keith-Simmons Co., Nashville, Tenn.; Lewis Supply Co., Memphis, Tenn.; Lewis Supply Co., Helena, Ark.; Southern Supply Co., Jackson, Tenn.; E. D. Morton & Co., Louisville, Ky.; Standard Supply & Hdw. Co., New Orleans, La.

GREENVILLE BELTING CO., Greenville, S. C.

GREENSBORO LOOM REED CO., Box 1375, Greensboro, N. C. Phone Greensboro 5071 collect. Geo. A. McFetters, Pres. and Mgr.; Geo. H. Batchelor, sales manager.

GULF OIL CORPORATION OF PA., Successor to GULF REFINING CO., Pittsburgh, Pa. Division Sales Offices: Atlanta, Ga.—A. W. Ripley, Greenville, S. C.; T. C. Scafee, Spartanburg, S. C.; J. H. Hooten, Gastonia, N. C.; R. G. Burkhalter, Charlotte, N. C.; G. P. King, Jr., Augusta, Ga.; Boston, Mass.; New York, N. Y.; Philadelphia, Pa.; New Orleans, La.; Houston, Tex.; Louisville, Ky.; Toledo, O.

HART PRODUCTS CORP., 1440 Broadway, New York City. Sou. Mgr., Charles C. Clark, Box 274, Spartanburg, S. C. Sales Reps., Tally W. Piper, Box 534, Fairfax, Ala.; W. R. Sargent, Greenville, S. C.

H & B AMERICAN MACHINE CO., Pawtucket, R. I. Sou. Offices, 815 The Citizens and Southern National Bank Bldg., Atlanta, Ga. J. C. Martin, Agt.; Johnston Bldg., Charlotte, N. C.; J. W. Rimmer, Mgr.; Fritz Swelver, Fred Dickinson, Jim Miller, sales and service representatives.

HERCULES POWDER COMPANY, Wilmington, Del. Distributors—Burkart-Schier Chemical Co., Chattanooga, Tenn.; Hercules Powder Co., Paper Makers Chemical Div., Atlanta, Ga. Warehouses—American Storage and Warehouse Co., 505-513 Cedar St., Charlotte, N. C.; Textile Warehouse Co., 511-513 Rhett St., Greenville, S. C.; South Atlantic Bonded Warehouse Corp., Washington and Macon Sts., Greensboro, N. C.

HERMAS MACHINE CO., Hawthorne, N. J. Sou. Rep., Carolina Specialty Co., P. O. Box 520, Charlotte, N. C.

HOLBROOK RAWHIDE CO., Providence, R. I. Sou. Distributors, Odell Mill Supply Co., Greensboro, N. C.; Textile Mill Supply Co., and Charlotte Supply Co., Charlotte, N. C.; Gastonia Mill Supply Co., Gastonia, N. C.; Sullivan Hdw. Co., Anderson, S. C.; Montgomery & Crawford, Spartanburg, S. C.; Carolina Supply Co., Greenville, S. C.; Fulton Supply Co., Atlanta, Ga.; Southern Belting Co., Atlanta, Ga.; Greenville Textile Mill Supply Co., Greenville, S. C.; and Atlanta, Ga.; Young & Vann Supply Co., Birmingham, Ala.; Waters-Garland Co., Louisville, Ky.

HOUGHTON & CO., E. F., 240 W. Somerset St., Philadelphia, Pa. Sou. Sales Mgr., W. H. Drinkley, 1410 First National Bank Bldg., Charlotte, N. C. Sou. Reps., Walter Andrews, 1306 Court Square Bldg., Baltimore, Md.; C. L. Elbert, 1306 Court Square Bldg., Baltimore, Md.; C. E. Kinney, 1410 First National Bank Bldg., Charlotte, N. C.; D. O. Wylie, 1410 First National Bank Bldg., Charlotte, N. C.; J. J. Reilly, 2355 Peachtree, Apt. No. 45,

Atlanta, Ga.; James A. Brittain, 1524 Sutherland Place, Homewood, Birmingham, Ala.; J. W. Byrnes, 233 St. Charles St., New Orleans, La.; B. E. Dodd, 233 St. Charles St., New Orleans, La.

HOUGHTON WOOL CO., 253 Summer St., Boston, Mass. Sou. Rep., Jas. E. Taylor, P. O. Box 2084, Phone 3-3692, Charlotte, N. C.

HOWARD BROS. MFG. CO., Worcester, Mass. Sou. Office and Plant, 244 Forsyth St., S.W., Atlanta, Ga.; Guy L. Melchor, Mgr. Sou. Rep., Guy L. Melchor, Jr., Atlanta Office; S.W. Rep., Russell A. Singleton, Mail Route 5, Dallas, Tex.

JACOBS MFG. CO., E. H. Danielson, Conn. Sou. Rep., W. Irving Bullard, Pres., Charlotte, N. C. Mgr. Sou. Service Dept., S. B. Henderson, Greer, S. C.; Sou. Distributors, Odell Mill Supply Co., Greensboro, N. C.; Textile Mill Supply Co., and Charlotte Supply Co., Charlotte, N. C.; Gastonia Mill Supply Co., Gastonia, N. C.; Shelby Supply Co., Shelby, N. C.; Sullivan Hdw. Co., Anderson, S. C.; Montgomery & Crawford, Spartanburg, S. C.; Industrial Supply Co., Clinton, S. C.; Carolina Supply Co., Greenville, S. C.; Fulton Supply Co., Atlanta, Ga.; Southern Belting Co., Atlanta, Ga.; Greenville Textile Mill Supply Co., Greenville, S. C.; and Atlanta, Ga.; Young & Vann Supply Co., Birmingham, Ala.; Waters-Garland Co., Louisville, Ky.

JACKSON LUMBER CO., Lockhart, Ala.

JOHNSON CHAS. B., Paterson, N. J. Sou. Rep., Carolina Specialty Co., Charlotte, N. C.

KEEVER STARCH CO., Columbus, O. Sou. Office, 1200 Woodside Bldg., Greenville, S. C.; Daniel H. Wallace, Sou. Agt. Sou. Warehouses, Greenville, S. C.; Charlotte, N. C.; Burlington, N. C. Sou. Reps., Claude R. Iler, P. O. Box 1333, Greenville, S. C.; Luke J. Castile, 515 N. Church St., Charlotte, N. C.; F. M. Wallace, 1115 S. 26th St., Birmingham, Ala.

LAUREL SOAP MFG. CO., Inc., 2607 E. Toga St., Philadelphia, Pa. Sou. Rep., A. Henry Gaede, P. O. Box 1083, Charlotte, N. C.

LINK-BELT CO., Philadelphia-Chicago, Indianapolis. Sou. Offices: Atlanta Plant, 1116 Murphy Ave., S.W., L. H. Barbee, Mgr.; Baltimore, 913 Lexington Bldg., H. D. Alexander, Mgr.; Dallas Warehouse, 415-15 Second Ave., E. C. Wendell, Mgr.; New Orleans, 747 Tchoupitoulas St.

MAQUIRE & CO., JOHN P., 370 Fourth Ave., New York City. Sou. Rep., Taylor R. Durham, First Nat'l Bank Bldg., Charlotte, N. C.

MANHATTAN RUBBER MFG. DIV. OF RAYBESTOS-MAN. HATTAN, Inc., Passaic, N. J. Sou. Offices and Reps., The Manhattan Rubber Mfg. Div., 1108 N. Fifth Ave., Birmingham, Ala.; Alabama—Anniston, Anniston Hdw. Co.; Birmingham, Crandall Eng. Co. (Special Agent); Birmingham, Long-Lewis Hdw. Co.; Gadsden, Gadsden Hdw. Co.; Huntsville, Noojin Hdw. & Supply Co.; Tuscaloosa, Allen & Jemison Co.; Montgomery, Teague Hdw. Co., Florida—Jacksonville, Cameron & Barkley Co.; Miami, Cameron & Barkley Co.; Tampa, Cameron & Barkley Co., Georgia—Atlanta, Amer. Machinery Co.; Columbus, A. H. Watson (Special Agent); Macon, Bibb Supply Co.; Savannah, DeTreville (Special Agent); Kentucky—Ashland, Ben Williamson & Co.; Harlan, Kentucky Mine Supply Co.; Louisville, Graft-Pelle Co., North Carolina—Asheville, T. S. Morrison & Co.; Charlotte, Charlotte Supply Co.; Durham, Dillon Supply Co.; Elizabeth City, Elizabeth City Iron Works & Supply Co.; Fayetteville, Huske Hdw. House; Goldsboro, Dewey Bros.; High Point, Kester Machinery Co., and Beeson Hdw. Co.; Lenoir, Bernhardt-Seagle Co.; Gastonia, Gastonia Belting Co.; Raleigh, Dillon Supply Co.; Wilmington, Wilmington Iron Works; South Shelby Supply Co.; Winston-Salem, Kester Machinery Co.; South Carolina—Anderson, Sullivan Hdw. Co.; Charleston, Cameron & Barkley Co.; Clinton, Industrial Supply Co.; Columbia, Columbia Supply Co.; Greenville, Sullivan Hdw. Co.; Sumter, Sumter Machinery Co.; Spartanburg, Montgomery & Crawford, Tennessee—Chattanooga, Chattanooga Belting & Supply Co.; Johnson City, Summers Hdw. Co.; Knoxville, W. J. Savage Co.; Nashville, Buford, Bros., Inc. Salesmen—E. H. Olney, 101 Gertrude St., Alta Vista Apts., Knoxville, Tenn.; C. P. Shook, Jr., 1031 N. 30th St., Birmingham, Ala.; B. C. Nabers, 2519 27th Place S., Birmingham, Ala.; R. T. Rutherford, 1318 Harding Place, Charlotte, N. C.

THE MERROW MACHINE CO., 8 Laurel St., Hartford Conn. Sou. Reps., E. W. Hollister, P. O. Box 2143, Charlotte, N. C.; R. B. Moreland, P. O. Box 895, Atlanta, Ga.

MURRAY LABORATORY, Greenville, S. C.

NATIONAL ANILINE & CHEMICAL CO., 40 Rector St., New York City. Sou. Office and Warehouse, 201 W. First St., Charlotte, N. C.; Julian T. Chase, Res. Mgr., Kenneth Mackenzie Asst. to Res. Mgr. Sou. Reps., Dyer S. Moss, A. R. Akerstrom, W. L. Barker, C. E. Blakely, Frank L. Feazle, Charlotte Office; James I. White, Amer. Savings Bk. Bldg., Atlanta, Ga.; H. A. Rodgers, 1004 James Bldg., Chattanooga, Tenn.; J. H. Shuford, Harry L. Shinn, 932 Jefferson Standard Life Bldg., Greensboro, N. C.; E. L. Pemberton, 324 Dick St., Fayetteville, N. C.

NATIONAL OIL PRODUCTS CO., Harrison, N. J. Sou. Reps., R. E. MacIntyre, 801 E. Blvd., Charlotte, N. C.; G. H. Small, 799 Argonne Ave., N.E., Atlanta, Ga. Warehouse, Chattanooga, Tenn.

NATIONAL RING TRAVELER CO., 257 W. Exchange St., Providence, R. I. Sou. Office and Warehouse, 131 W. First St., Charlotte, N. C. Sou. Agt., C. D. Taylor, Gaffney, S. C. Sou. Reps., L. E. Taylor, Box 272, Atlanta, Ga.; Otto Pratt, Gaffney, S. C.; H. B. Askew, Box 272, Atlanta, Ga.

N. Y. & N. J. LUBRICANT CO., 292 Madison Ave., New York City. Sou. Office, 1000 W. Morehead St., Phone 3-7131, Charlotte, N. C.; Spartanburg, S. C.; Atlanta, Ga.; Greenville, S. C.; Spartanburg, S. C.; Atlanta, Ga.; Greenville, S. C.

NORLANDER MACHINE CO., New Bedford, Mass. Sou. Plant, 213 W. Long St., Gastonia, N. C.

NORMA-HOFFMANN BEARINGS CORP., Stamford, Conn. Sou. Rep., E. W. Lawrence, 1841 Plaza, Charlotte, N. C.

ONYX OIL & CHEMICAL CO., Jersey City, N. J. Sou. Rep., Edwin W. Klumph, 1716 Garden Terrace, Charlotte, N. C.

PARKS-CRAMER CO., Plants at Fitchburg, Mass., and Charlotte, N. C. Atlanta Office, Bona Allen Bldg.

PIEDMONT SUPPLY CO., Charlotte, N. C. Sou. Dealers: Welder's Supply Co., 815 E. Franklin Ave., Gastonia, N. C.; C. J. Tallon, Greenville, N. C.; Carolina Mill Supply Co., Greenville, S. C.

PLYMOUTH BOX & PANEL CO., Sales Office, 614 Johnston Bldg., Charlotte, N. C. Sales Staff, E. J. Mueller, C. P. Semmlow. Plant at Plymouth, N. C.

PERKINS & SON, Inc., B. F., Holyoke, Mass.

PROVIDENT LIFE & ACCIDENT INS. CO., Chattanooga, Tenn. Southeastern Div. Office, 819 Johnston Bldg., Charlotte, N. C.

RHODE ISLAND TOOL CO., Providence, R. I. Sou. Rep., Henry Anner, Box 1515, Greenville, S. C.

ROY & SONS, B. S., Worcester, Mass. Sou. Office, 21 Byrd Blvd., Greenville, S. C. John R. Roy, Representative.

SACO-LOWELL SHOPS, 147 Milk St., Boston, Mass. Sou. Office and Repair Depot, Charlotte, N. C., Walter W. Gayle. Sou. Agent; Branch Sou. Offices, Atlanta, Ga., John L. Graves, Mgr.; Greenville, S. C.

SAVOGRAN CO., THE, Boston, Mass. Sou. Dist. Mgr., John T. Wilkes, P. O. Box 10, Laurens, S. C.; B. M. Gregory, 624 9th Court So., Birmingham, Ala., Alabama and Western Tenn.

SCHOLTEN'S CHEMISCHE FABRIEKEN, W. A., Groningen, Holland. Sou. Rep., H. D. Melnick, 814 Commercial Bank Bldg., Charlotte, N. C.

SEYDEL CHEMICAL CO., Jersey City, N. J. Sou. Rep., Harold P. Goller, Greenville, S. C.; Francis P. Boyer, Lowell, Mass.

SEYDEL-WOOLLEY CO., 748 Rice St., N.W., Atlanta, Ga.

SHERWIN-WILLIAMS CO., THE, Cleveland, O. Sou. Warehouses: Richmond, 1315 East Main St.; Savannah, 655 East Liberty St.; Charlotte, 222 West First St.; Spartanburg, 158 East Main St.; Columbia, 1713 Main St.; Atlanta, 70 Broad St. N. W.; Columbus, 1038 Broadway; Nashville, 711 Church St.; Chattanooga, 826-28 Broad St.; Birmingham, 2016 Third Ave. N.; Montgomery, 23 Commerce St.; Knoxville, 314 S. Gay St. Sou. Representatives: E. H. Steger, 222 West 1st St., Charlotte, N. C.; R. B. Olney, 158 East Main St., Spartanburg, S. C.; W. O. Masten, 2308 S. Main St., Winston-Salem, N. C.; J. K. Montague, 230 Bay View Blvd., Portsmouth, Va.; T. R. Moore, 509 Westover Ave., Roanoke, Va.; G. N. Jones, 207 Glascock St., Raleigh, N. C.; W. H. Mastbrook, 105 W. Iver St., Greensboro, N. C.; John Limbach, 70 Broad St., N. W., Atlanta, Ga.; D. S. Shimp, 3 Cummins Station, Nashville, Tenn.

SIGNODE STEEL STRAPPING CO., 2600-2620 N. Western Ave., Chicago, Ill. Sou. Warehouses and Offices, Greensboro, N. C., 908 Lakeview St., Phone 6935, O. B. Shelton, Rep.; Atlanta, Ga., 113 Courtland St., S.E., A. S. Stephens, Rep.; New Orleans, La., 700 Tchoupitoulas St., P. E. Odenhahl, Rep.

SLIP-NOT BELTING CORP., Kingsport, Tenn.

SOCONY VACUUM OIL CO., Inc., Southeastern Div. Office, 1602 Baltimore Trust Bldg., Baltimore, Md. Warehouses: Union Storage Warehouse Co., 1000 W. Morehead St., Charlotte, N. C.; Textile Warehouse Co., 511 Rhett St., Greenville, S. C.; South Atlantic Bonded Warehouse Co., Greensboro, N. C.; New South Express Lines, Columbia, S. C.; Terminal Storage Corp., 317 N. 17th St., Richmond, Va.; Taylor Transfer Co., 102 Boush St., Norfolk, Va.

SOLUOL CORP., 123 Georgia Ave., Providence, R. I.

SOLVAY SALES CORP., 40 Rector St., New York City. Sou. Distributors: Chas. H. Stone, Charlotte, N. C.; Miller-Lenfestey Supply Co., Tampa, Miami, and Jacksonville, Fla. Sou. Rep., H. O. Pierce, 212 S. Tryon St., Charlotte, N. C.

SONOCO PRODUCTS CO., Hartsville, S. C.

SOUTHERN SPINDLE & FLYER CO., Charlotte, N. C.

STALEY MFG. CO., A. E., Decatur, Ill. Sou. Offices, 1710 Rhodes-Haverty Bldg., Atlanta, Ga.; Wm. H. Randolph, Jr., Sou. Mgr., 812 Montgomery Bldg., Spartanburg, S. C.; Geo. A. Dean, Reps., W. T. O'Steen, Greenville, S. C.; John A. Harris, Greensboro, N. C.; R. R. Berry, Atlanta, Ga.; H. A. Mitchell, Birmingham, Ala.

STANLEY WORKS, THE, New Britain, Conn. Sou. Office and Warehouse, 552 Murphy Ave., S.W., Atlanta, Ga., H. C. Jones, Mgr.; Sou. Rep., Corry Lynch, P. O. Box 1204, Charlotte, N. C.

STEEL HEDDLE MFG. CO., 2100 W. Allegheny Ave., Philadelphia, Pa. Sou. Office Plant, 621 E. McBee Ave., Greenville, S. C.; H. E. Littlejohn and J. J. Kaufman, Jr., Vice-Pres. in charge of reed plant; Atlanta, Ga., H. Ralford Gaffney, 268 McDonough Blvd., Greensboro, N. C.; C. W. Cain.

STEIN, HALL & CO., Inc., 285 Madison Ave., New York City. Sou. Office, Johnston Bldg., Charlotte, N. C.; Ira L. Griffin, Mgr.

STERLING RING TRAVELER CO., 101 Lindsey St., Fall River, Mass. Sou. Rep., Geo. W. Walker, P. O. Box 78, Greenville, S. C.; D. J. Quillen, P. O. Box 443, Spartanburg, S. C.

STEWART IRON WORKS, Cincinnati, O. Sales Reps., Peterson-Stewart Fence Construction Co., 241 Liberty St., Spartanburg, S. C.; Ruff Hdw. Co., 1649 Main St., Columbia, S. C.; Lewis M. Clyburn, Box 338, Lancaster, S. C.; J. B. Hunt & Sons, Room 303 Odd Fellows Bldg., Raleigh, N. C.; Lewis L. Merritt, Odd Fellows Bldg., Wilmington, N. C.; D. E. Kehoe, 412 E. 40th St., Savannah, Ga.; R. C. Cropper & Co., 7th and Mulberry Sts., Macon, Ga.; R. A. Brand, 203 Latta Arcade, Charlotte, N. C.; Durham Builders Supply Co., Milton Ave. at Main St., Box 48, Durham, N. C.; Orangeburg Marble & Granite Co., 194 W. Russell St., Orangeburg, S. C.; R. W. Didschuneit, 1733 Candler Bldg., Atlanta, Ga.; W. E. Raines Co., Inc., S. F. C. Bldg., Augusta, Ga.; S. A. Moore, 614 S. Main St., Birmingham, Ala.; F. L. Sherman, 100 Bienville Ave., Mobile, Ala.; T. M. Gorrie, P. O. Box 441, Montgomery, Ala.

STONHARD CO., 401 N. Broad St., Philadelphia, Pa. Sou. Office, 552 Murphy Ave., S.W., Atlanta, Ga.

TERMINIX DIVISION E. L. BRUCE CO., Memphis, Tenn. Branches in principal cities.

TERRELL MACHINE CO., Charlotte, N. C. E. A. Terrell, Pres. and Mgr.

TEXAS CO., THE, New York, N. Y. District Offices, Box 901, Norfolk, Va., and Box 1722, Atlanta, Ga. Bulk plants and warehouses in all principal cities. Lubrication Engineers, H. L. Marlow, W. H. Grose, W. F. Warner, Greensboro, N. C.; W. H.

Goebel, Roanoke, Va.; A. H. Bamman, Norfolk, Va.; P. H. Baker, Spartanburg, S. C.; D. L. Keys, Richmond, Va.

TEXTILE-FINISHING MACHINERY CO., Providence, R. I. Sou. Office, Johnston Bldg., Charlotte, N. C.

TEXTILE SHOP, THE, Franklin St., Spartanburg, S. C. E. J. Eaddy, Sec. and Treas.

UNIVERSAL WINDING CO., Providence, R. I. Sou. Offices, Charlotte, N. C., Atlanta, Ga.

U S BOBBIN & SHUTTLE CO., Manchester, N. H. Sou. Plants, Greenville, S. C.; Johnson City, Tenn., and Monticello, Ga. Sou. Reps., E. Rowell Holt, 1008 Johnston Bldg., Charlotte, N. C.; M. Ousley, P. O. Box 816, Greenville, S. C.; Chas. Sidney Jordan, Monticello, Ga., and L. K. Jordan, Sales Mgr., Monticello, Ga.

U. S. GUTTA PERCHA PAINT CO., Providence, R. I. Sou. Fac. Reps., J. S. Palmer, 1400-A Woodside Bldg., Greenville, S. C.; L. K. Palmer, P. O. Box 241, Birmingham, Ala.; William M. Moore, 601 Pearl St., Lynchburg, Va.; William H. Patrick, 216 S. Oakland St., Gastonia, N. C. Sou. Distributors Barreled Sunlight, D. A. Hines, 316 Twelfth St., Lynchburg, Va.; The Henry Walke Co., P. O. Box 1003, Norfolk, Va.; Bullington Paint Co., Inc., Fourth and Broad Sts., Richmond, Va.; Morgan's, Inc., 111 W. Broad St., Savannah, Ga.; Nelson Hdw. Co., 17 Campbell Ave., E. Roanoke, Va.; Atlantic Paint Co., 207 Meeting St., Charleston, S. C.; Pritchard Paint & Glass Co. of Asheville, 71 Patton Ave., Asheville, N. C.; Pritchard Paint & Glass Co., 12 W. 5th St., Charlotte, N. C.; Gate City Paint Co., 110 N. Greene St., Greensboro, N. C.; Montgomery & Crawford, Inc., Spartanburg, S. C.; Dohy's-Taylor Hdw. Co., Kingsport, Tenn.; Chapman Drug Co., 516 State St., Knoxville, Tenn.; The Eason-Morgan Co., 322 Second Ave., N., Nashville, Tenn.; Binswanger Co. of Tenn., 645-655 Union Ave., Memphis, Tenn.; Campbell Coal Co., 236-240 Marietta St., N.W., Atlanta, Ga.; Favrot Roofing & Supply Co., P. O. Box 116, Station G, New Orleans, La.; Standard Bldg. Mt. Co., Inc., 230 31st St., Birmingham, Ala.; Shaw Paint & Wallpaper Co., Durham, N. C.; Vick Paint Co., 219 W. Fifth St., Winston-Salem, N. C.; Baldwin Supply Co., Bluefield, W. Va.; Baldwin Supply Co., Beckley, W. Va.; Southern Pine Lumber Co., 104 E. Main St., Clarksburg, W. Va.; Rhodes, Inc., 809 Cherry St., Chattanooga, Tenn.; W. A. Wilson & Sons, 1409-25 Main St., Wheeling, W. Va.; Emmons-Hawkins Hardware Co., 1028 3rd Ave., Huntington, W. Va.; Baldwin Supply Co., 518 Capitol St., Charleston, W. Va.; Baldwin supply Co., Logan, W. Va.

U. S. RING TRAVELER CO., 159 Aborn St., Providence, R. I. Sou. Reps., William W. Vaughan, P. O. Box 792, Greenville, S. C.; Oliver B. Land, P. O. Box 158, Athens, Ga.

VEEDER-ROOT, Inc., Hartford, Conn. Sou. Office, Room 1401 Woodside Bldg., Greenville, S. C., Edwin Howard, Sou. Sales Mgr.

VICTOR RING TRAVELER CO., Providence, R. I., with Sou. Office and Stock Room at 173 W. Franklin Ave., P. O. Box 443, Gastonia, N. C. Also stock room in charge of B. F. Barnes, Jr., Mgr., 1733 Inverness Ave., N.E., Atlanta, Ga.

VISCOE CO., Johnston Bldg., Charlotte, N. C., Harry L. Dalton, Mgr.

WATSON-WILLIAMS MFG. CO., Millbury, Mass. Sou. Reps., D. C. Ragan, Phone 2235, High Point, N. C.; E. V. Wilson, Phone 4685, 107 Elm St., Greenville, S. C.

WHITIN MACHINE WORKS, Whitinsville, Mass. Sou. Office, Whitin Bldg., Charlotte, N. C., W. H. Porcher and R. I. Dalton, Mgrs.; 1317 Healey Bldg., Atlanta, Ga. Sou. Reps., M. P. Thomas, Charlotte Office; I. D. Wingo and M. J. Bentley, Atlanta Office.

WHITINSVILLE SPINNING RING CO., Whitinsville, Mass. Sou. Rep., H. Ross Brock, LaFayette, Ga.

WILLIAMS & SONS, I. B., Dover, N. H. Sales Reps., C. C. Withington, 710 Woodside Bldg., Greenville, S. C.; R. A. Brand, 203 Latta Arcade, Charlotte, N. C.; P. B. Ralford, 188 Washington Lane, Concord, N. C.

WINDLE & CO., J. H., 231 S. Main St., Providence, R. I.

WOLF, JACQUES & CO., Passaic, N. J. Sou. Reps., C. R. Bruning, 306 S. Chapman St., Greensboro, N. C.; G. W. Searell, Jefferson Apts., 501 E. 5th St., Chattanooga, Tenn.

WYTHEVILLE WOOLEN MILLS, Inc., Wytheville, Va. Sou. Reps., Charlotte Supply Co., Charlotte, N. C.; Montgomery & Crawford Co., Inc., Spartanburg, S. C.; Sullivan Hardware Co., Anderson, S. C.; Southern Belting Co., Atlanta, Ga.; Russell A. Singleton, Jackson, Miss., and Dallas, Tex.; Proximity Mercantile, Greensboro, N. C.

Equipment For Sale



Chances are you'll find a buyer through a

Textile Bulletin

WANT AD



*Can never freeze
when properly
installed!*

VOGEL Number One frost-proof closets have been installed in mill villages in all parts of the country. Severe winters have no effect on them—and they will withstand the hardest kind of use and abuse with fewer repairs.

Sold by plumbers everywhere

JOSEPH A. VOGEL COMPANY
Wilmington, Del. • St. Louis, Mo.

VOGEL *Products*



Ring Specialists

When you place your next ring order, consider the advantages of sending it where rings are "the works." The entire efforts of the **DIAMOND FINISH** organization are centered upon RINGS. You'll find this means a lot—in quality, in modern design, and especially when you need quick action!

WHITINSVILLE (MASS.)

SPINNING RING CO.
Makers of Spinning and Twister Rings since 1873

Southern Representative: H. ROSS BROCK, Lafayette, Georgia
Mid-West Representative: ALBERT R. BREEN, 80 E. Jackson Blvd., Chicago

Books That Will Help You With Your Problems

"Clark's Weave Room Calculations"

By W. A. GRAHAM CLARK

Textile Expert of U. S. Tariff Commission

Second edition. Completely revised and enlarged. A practical treatise of cotton yarn and cloth calculations for the weave room. Price, \$3.00.

"Practical Loom Fixing" (Fourth Edition)

By THOMAS NELSON

Completely revised and enlarged to include chapters on Rayon Weaving and Rayon Looms. Price, \$1.25.

"Carding and Spinning"

By GEO. F. IVEY

A practical book on Carding and Spinning. Price, \$1.00.

"Cotton Mill Processes and Calculations"

By D. A. TOMPKINS

Third edition. Completely revised. An elementary text book for the use of textile schools and home study. Illustrated throughout. Price, \$2.00.

"Remedies for Dyehouse Troubles"

By WM. C. DODSON, B.E.

A book dealing with just that phase of dyeing which constitutes the day's work of the average mill dyer. Price, \$1.50.

"Cotton Spinners Companion"

By I. C. NOBLE

A handy and complete reference book. Vest size. Price, 75c.

Published By

Clark Publishing Company
Charlotte, N. C.

GENCO SPECIALITIES

EMULPHORS—FOR EMULSIFYING

EULANS—FOR MOTHPROOFING

IGEPONS—FOR SCOURING, PENETRATING
AND LEVELING

NEKALS—FOR WETTING OUT
FINISHING

PRESTABIT OILS—FOR DYEING AND
FINISHING

SOROMINES—FOR RAYON FINISHING

GENERAL DYESTUFF CORPORATION
435 HUDSON STREET, NEW YORK, N. Y.



INSTITUTE FOR RESEARCH OCT 1
IN SOCIAL SERVICE 455 C R
UNIVERSITY OF N C BOX 711
CHAPEL HILL, N C